DEPARTMENT OF THE NAVY FISCAL YEAR (FY) 2005 BUDGET ESTIMATES



JUSTIFICATION OF ESTIMATES FEBRUARY 2004

RESEARCH, DEVELOPMENT, TEST & EVALUATION, NAVY BUDGET ACTIVITY 7

DEPARTMENT OF THE NAVY FY 2005 RDT&E PROGRAM

FY 2005 RDT&E PROGRAM EXHIBIT R-1

APPROPRIATION: 1319N Research, Development, Test & Eval, Navy

APPROI	PRIALLON: 131	.9N Research, Development, lest & Eva	ai, Navy		D.	ate: repluary	2004	
Time	Program			Thousa	Thousands of Dollars			
Line No	Element Number	Item	Act	FY 2003	FY 2004	FY 2005	E C	
							-	
159								
160								
161	0101221N	Strategic Sub & Weapons System Support	7	38,099	65,454	108,782	U	
162	0101224N	SSBN Security Technology Program	7	32,718	37,981	43,408	U	
163	0101226N	Submarine Acoustic Warfare Development	7	1,057	5,889	8,453	U	
164	0101402N	Navy Strategic Communications	7	14,637	23,035	31,391	U	
165	0203761N	Rapid Technology Transition (RTT)	7		9,889	14,630	U	
166	0204136N	F/A-18 Squadrons	7	204,131	172,743	134,580	U	
167	0204152N	E-2 Squadrons	7	18,878	19,331	6,055	U	
168	0204163N	Fleet Telecommunications (Tactical)	7	12,048	23,123	19,784	U	
169	0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	7	97,284	76,524	28,776	U	
170	0204311N	Integrated Surveillance System	7	25,186	14,117	16,965	U	
171	0204413N	Amphibious Tactical Support Units (Displacement Craft)	7	6,106	5,589	2,604	U	
172	0204571N	Consolidated Training Systems Development	7	25,974	22,460	21,644	U	
173	0204574N	Cryptologic Direct Support	7		1,448	1,460	U	
174	0204575N	Electronic Warfare (EW) Readiness Support	7	25,906	11,794	12,139	U	
175	0205601N	HARM Improvement	7	58,793	51,601	163,371	U	
176	0205604N	Tactical Data Links	7	40,024	43,971	18,977	U	
177	0205620N	Surface ASW Combat System Integration	7	36,065	23,118	10,612	U	

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Date: February 2004

UNCLASSIFIED

DEPARTMENT OF THE NAVY FY 2005 RDT&E PROGRAM

FY 2005 RDT&E PROGRAM EXHIBIT R-1

APPROPRIATION: 1319N Research, Development, Test & Eval, Navy

	Program			Thous	ands of Dollars		S
Line No 	Element Number	Item	Act	FY 2003	FY 2004	FY 2005	E C -
178	0205632N	MK-48 ADCAP	7	21,323	17,036	21,620	U
179	0205633N	Aviation Improvements	7	38,878	68,552	62,635	U
180	0205658N	Navy Science Assistance Program	7	15,459	7,098	3,821	U
181	0205675N	Operational Nuclear Power Systems	7	55,430	62,052	64,554	U
182	0206313M	Marine Corps Communications Systems	7	197,524	247,179	268,638	U
183	0206623M	Marine Corps Ground Combat/ Supporting Arms Systems	7	37 , 552	41,960	44,828	U
184	0206624M	Marine Corps Combat Services Support	7	16,682	20,493	10,731	U
185	0207161N	Tactical AIM Missiles	7	2,812	2,236	4,061	U
186	0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	7	7 , 650	8,973	9,085	U
187							
188							
189							
190	0303109N	Satellite Communications (SPACE)	7	110,463	267,665	573 , 092	U
191	0303140N	Information Systems Security Program	7	25,733	25,366	18,676	U
192							
193	0305149N	COBRA JUDY	7	50,510	68,583	80,694	U
194	0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	7	21,833	7,878	4,215	U
195	0305188N	Joint C4ISR Battle Center (JBC)	7	29,371	44,865	43,569	U
196	0305192N	Joint Military Intelligence Programs	7	6 , 971	5,246	4,746	U

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Date: February 2004

UNCLASSIFIED

DEPARTMENT OF THE NAVY FY 2005 RDT&E PROGRAM

EXHIBIT R-1

APPROP	RIATION: 1	319N Research, Developme	ent, Test & Eva	l, Navy			Date: February	2004	
Line	Program Element					Thousands of Dollar	rs	S E	
No	Number	Item		Act	FY 200	3 FY 2004	FY 2005	С	
								-	
197	0305204N	Tactical Unmanned A	erial Vehicles	7	253,84	4 85,713	53,439	U	

Line No	Element Number	Item	Act	FY 2003	FY 2004	FY 2005	E C
							_
197	0305204N	Tactical Unmanned Aerial Vehicles (JMIP)	7	253,844	85,713	53,439	U
198	0305205N	Endurance Unmanned Aerial Vehicles	7		100,212	113,438	U
199	0305206N	Airborne Reconnaissance Systems	7	16,171	26,989	10,191	U
200	0305207N	Manned Reconnaissance Systems (JMIP)	7	22,505	16,521	20,203	U
201	0305208N	Distributed Common Ground/Surface Systems	7	8,518	8,818	3,635	U
202	0305927N	Naval Space Surveillance	7	5,017			U
203	0307207N	Aerial Common Sensor (ACS) (JMIP)	7			24,909	U
204	0308601N	Modeling and Simulation Support	7	9,455	13,475	7,262	U
205	0702207N	Depot Maintenance (Non-IF)	7	12,839	8,972		U
206	0708011N	Industrial Preparedness	7	71,704	64,270	56,565	U
207	0708730N	Maritime Technology (MARITECH)	7	11,613	14,504	10,265	U
	TOTAL Ope	rational Systems Development		2,917,062	2,898,174	3,161,988	

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Fiscal Year 2005 Budget Estimates Budget Appendix Extract Language

RESEARCH, DEVELOPMENT, TEST & EVALUATION, NAVY (RDTEN)

For expenses necessary for basic and applied scientific research, development, test and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment, [\$15,146,383,000] \$16,346,391,000, to remain available for obligation until September 30, [2005] 2006: Provided, That funds appropriated in this paragraph which are available for the V–22 may be used to meet unique operational requirements of the Special Operations Forces: Provided further, That funds appropriated in this paragraph shall be available for the Cobra Judy program. (10 U.S.C. 174, 2352–54, 7522; Department of Defense Appropriations Act, 2004.)

[For an additional amount for "Research, Development, Test and Evaluation, Navy", \$34,000,000, to remain available until September 30, 2005.] (Emergency Supplemental Appropriations Act for Defense and for the Reconstruction of Iraq and Afghanistan, 2004.)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
PPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PE 0101221N Strategic Sub & V							2004
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	38.1	65.5	108.8	111.0	110.4	113.8	114.7
0004 TRIDENT Submarine System Improvement	5.2	4.0	2.6	3.5	3.3	3.4	3.5
2228 Technology Applications Program	32.9	61.5	106.2	107.5	107.1	110.4	111.2

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The TRIDENT II (D5) Submarine Launched Ballistic Missile (SLBM) provides the U.S. a weapon system with greater accuracy and payload capability as compared to the TRIDENT I (C4) system. TRIDENT II enhances U.S. strategic deterrence providing a survivable sea-based system capable of engaging the full spectrum of potential targets with fewer submarines. This Program Element supports investigations into new technologies which would help mitigate the program impact due to component obsolescence and a rapidly decreasing manufacturing support base. These efforts include Reentry System Applications and Guidance System Applications, Radiation Hardened Electronics Applications, and Strategic Propulsion Applications. The TRIDENT Submarine System Improvement Program develops and integrates command and control Improvements needed to maintain TRIDENT Submarine operational capability through the life cycle of this vital strategic asset. The program conducts efforts needed to maintain strategic connectivity, ensure platform invulnerability, and reduce lifecycle costs through Obsolete Equipment Replacement (OER) and commonality.

The TRIDENT operational systems development program results in improvements to the baseline TRIDENT Combat System. Current TRIDENT Combat Systems were first developed in the early 1970s and are becoming increasingly difficult to maintain and offer comparitively less performance than more recently designed systems. Previous efforts to upgrade portions of the TRIDENT Combat System include improvements via sonar and combat control hardware and software (e.g., QE2 programs), feasibility of increased countermeasure capability and a concept evaluation of an Submarine Fleet Mission Program Library (SFMPL) interface. Due to the sensitivity of TRIDENT programs it is assessed that international technology will not have a major impact or be a recipient of the benefits derived from this effort. Development strategies will significantly enhance the sustainability and operability of the sonar, communications and Combat Control Systems on TRIDENTs by evaluating both Obsolete Equipment Replacement (OER) possibilities and potential improvements.

R-1 SHOPPING LIST - Item No. 161 - 1 of 161 - 17

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:
		Feb 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PE 0101221N Strategic Sub &	Wpns Sys Spt

FY 2004 President's Budget:	FY 2003	FY 2004		
	39.2	104.8	<u>FY2005</u> 139.6	
FY 2005 President's Budget	38.1	65.5	108.8	
Total Adjustments:	-1.1	-39.3	-30.8	
Summary of Adjustments:				
SBIR transfer	-0.6			
Congressional Plus up		1.0		
Closed Account Billings	-0.5			
Congressional Reductions		-39.6		
Delete Effectiveness Enhancement (E2) Demonstration			-30.3	
Inflation, NCWF Rates, Efficiency reductions		-0.7	-0.5	

- C. (U) Other Program Funding Summary: See enclosed R-2a for each individual project data.
- D. (U) Acquisition Strategy: See enclosed R-2a for each individual project data.

R-1 SHOPPING LIST - Item No. 161 - 2 of 161 - 17

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		Feb 2004
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUMBER AND NAME	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	Technology Applications 2228	

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost 2228 Technology Applications	32.9	61.5	106.2	107.5	107.1	110.4	111.2
RDT&E Articles Qty							

A. (U) MISSION DESCRIPTION AND BUDGET PROJECT JUSTIFICATION:

This project supports implementation of a coordinated Navy/Air Force Reentry System Applications Program (RSAP), a coordinated Navy/Air Force Strategic Guidance Applications Program (GAP), a coordinated Navy/Air Force Strategic Propulsion Applications Program (SPAP), and a coordinated Department of Defense Radiation Hardened Applications Program (RHAP). Reentry vehicle and guidance technology had been rapidly eroding beyond the point of being capable to respond to increasing aging phenomena and future requirements. Beginning in FY 2004, SPAP demonstrates and validates technologies unique to strategic missile applications. Also beginning in FY 2004, the RHAP program addresses production, qualification and manufacturing issues associated with strategic and space radiation hardened electronics. The December 2001 DOD Nuclear Posture Review determined that infrastructure is a critical part of the new triad and these efforts form part of the infrastructure that supports the nuclear force structure.

- The RSAP program, through sustainment of the reentry vehicle technology base, will maintain confidence in the dependability and reliability of strategic SLBM and ICBM weapon systems over the long term when no new systems will be in development. Critical and unique attributes necessary for the design, development and in-service support of current and modernized SLBM reentry systems have been defined and will be maintained to insure a functioning readiness application technical capability in reentry is preserved. Working closely with the Air Force, Navy and Air Force requirements have been integrated into a comprehensive program. The program maintains close coordination with the DOD Science and Technology (S&T) community in order to: leverage S&T programs, ensure system driven technology base requirements are considered in contract awards, eliminate duplication of effort and provide an opportunity to demonstrate appropriate emerging technologies through a reentry flight test evaluation process.
- The GAP program provides a minimum strategic guidance core technology development capability consistent with the Strategic Advisory Group (SAG) recommendations to COMSTRATCOM. The SAG recommended that SSP establish a program which preserves this critical design and development core. It is a basic bridge program which develops critical guidance technology applicable to any of the existing Air Force/Navy strategic missiles. The objective is to transition from current capability to a long term readiness status required to support deployed systems. Air Force and Navy guidance technology requirements are integrated and needs prioritized. Efforts are focused on alternatives to technologies identified as system "weak links." Current system accuracy and functionality depends upon key technologies which provide radiation hardened velocity, attitude and stellar sensing capabilities. As the underlying technologies that currently provide these capabilities age and are no longer technically supportable, modern alternatives must be made available in order to allow for orderly replacement. There is no commercial market for these technologies and their viability depends on the strategic community.
- The SPAP program, commencing in FY 2004, is a coordinated Navy/Air Force effort and addresses infrastructure needs by exercising critical developmental skills to allow for future large-scale rocket motor test firings. A sound base of demonstrated technologies suitable for Strategic Missile applications will be maintained and will provide the nation a talent base and source of technologies suitable for a follow-on development program. Boost propulsion (missile stages), post boost propulsion (missile payload delivery vehicle) and Ordnance (separation events and flight termination events) are all integral parts of missile propulsion application efforts.
- The RHAP program, commencing in FY 2004, sustains critical skills in radiation hardened electronics by advancing radiation hardened simulation technologies to reflect the processes in future systems. These efforts become of greater importance because of the shrinking industrial base for radiation hardened electronics, the unavailability of underground testing resources, and the loss of radiation hardened expertise. These efforts are coordinated by the Radiation Hardened Oversight Council (RHOC) chaired by the Director, Defense Research & Engineering (DDR&E). The RHAP program focuses on a coordinated Productization & Qualification Program which provides a transition between Science and Technology (S&T) and production by efficient utilization of limited resources, sharing of information to eliminate redundancy, increased use of common part/technologies, coordination into the RHOC technology road map and implementation of the USD (AT&L) investment strategy. The RHAP will compliment the GAP electronic part activities by specifically focusing on those tasks required to ensure producability of radiation hardened parts.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		Feb 2004
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUMBER AND NAME	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	Technology Applications 2228	

B. (U) Accomplishments/Planned Program

		FY 03	FY 04	FY 05
Reentry Systems Application Program (RSAP))	19.0	22.3	26.1
RDT&E Articles Quantity				

(U) FY 2003 PLAN

- (U) (\$19.0) Continue Reentry System Applications Program. Full obligation is complete.
 - FY 2003 efforts included:
 - (U) Continued development and ground testing of reentry vehicle candidate heatshield, nosetip and aft closure materials including those available from Science & Technology (S&T).
 - (U) Identified and evaluate next generation low-cost heatshield material candidates.
 - (U) Conducted an updated ground and flight test program to assess performance of reentry components exposed to operational environments beyond their design life; evaluate risk mitigation concepts for known aging mechanisms.
 - (U) Downselected low-cost design approach and components for Arming and Fuzing applications.
 - (U) Downselected a low-cost inertial sensor technology for Reentry Body (RB) flight test instrumentation.
 - (U) Maintained RSAP technical program plan, conducted system assessments and continued Vulnerability & Hardening certification process in absence of Nuclear Under Ground Testing (UGT) facilities.

(U) FY 2004 PLAN

- (U) (\$22.3) Continue Reentry System Applications Program. Full obligation is projected by the 3rd quarter of the 1st year.. FY 2004 efforts include:
 - (U) Continue to maintain the current capability and implement planned service life extension of Navy reentry systems.
 - (Ú) Assess data relating to aging trends to establish the impact on system performance and address any effects on the extended service of the deployed systems. Plan and execute test programs for the evaluation of aging effects and the development of predictive methodologies to mitigate the risks associated with aging mechanisms and the planned extended service of the deployed Navy reentry systems.
 - (U) Continue with the development, test, and assessment of replacement heatshield, nosetip, and aft closure materials for use on reentry systems, including those available from Science and Technology (S&T). Make recommendations for improved material thermal protection concepts and test techniques.
 - (U) Continue development of low-cost design approach and components for Arming and Fuzing applications.
 - (U) Assess, integrate, and test reentry system instrumentation, including software and hardware development for avionics computer, GPS, and inertial sensor technology.
 - (U) Maintain the RSAP technical program plan, and conduct system assessments as required.
 - (U) Continue development and improvement of analytical models and techniques for predicting reentry body and components response to stressing environments.
 - (U) Improve methods of assessing the vulnerability and hardness of reentry systems in the absence of underground testing (UGT).

R-1 SHOPPING LIST - Item No. 161 - 4 of 161 - 17

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE:
	Feb 2004
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUMBER AND NAME
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	Technology Applications 2228

B. (U) Accomplishments/Planned Program (Continued)

- (U) FY 2005 PLAN
 - •(U) (\$26.1) Continue Reentry System Applications Program. Full obligation is projected by the 3rd quarter of the first year. FY 2005 efforts include:
 - (U) Continue development and ground testing of reentry vehicle candidate heatshield and nosetip materials including those available from Science & Technology (S&T).
 - (U) Characterize and flight test alternate low-cost heatshield and replacement nosetip material.
 - (U) Conduct a ground and flight test program to assess performance of reentry components exposed to operational environments beyond their design life; complete evaluation of ground test results; flight test repackaged components for risk mitigation.
 - (U) Initiate fabrication of RB inertial sensor flight test instrumentation for FY 2006 flight test.
 - (U) Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities.
 - (U) Continue Reentry Body material development and advanced flight test instrumentation activities
 - (U) Continue development of GPS simulator for twelve channel receiver
 - (U) Initiate feasibility study of the use of Terminal Fix Sensors (TFS) for target area trajectory correction
 - (U) Ground test advanced reentry material systems
 - (U) Initiate development of low cost replacement In Flight Disconnect (IFD) connector for the MK4A Reentry system
 - (U) Initiate development of optimized Reentry Body separation system

R-1 SHOPPING LIST - Item No. 161 - 5 of 161 - 17

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		Feb 2004
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUMBER AND NAME	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	Technology Applications 2228	

	FY 2003	FY 2004	FY 2005
Guidance Application Program (GAP)	13.9	18.4	20.6
RDT&E Articles Quantity			

(U) FY 2003 PLAN

- (U) (\$13.9) Continue Strategic Guidance Applications Programs (GAP). Full obligation is complete.
 FY 2003 efforts included:
 - (U) Continued to develop advance sensor models for incorporation in Integrated Engineering Environment (IEE). Integrate Interferometic Fiber Optic Gyro (IFOG), the Hemospherical Resonator Gyro (HRG), and the Alternate PIGA into Strategic Inertial Guidance Hardware Technology Synthesizer (SIGHTS). Utilize IEE/SIGHTS capability to perform system architecture/design tradeoffs in support of technology downselect in FY 2006 for D5 Life Extension.
 - (U) Continued to evaluate high risk/high payoff sensor technology, (accelerometer, gyro, stellar) for application in the D5 Life Extension Guidance system. Begin prototype radiation-hard sensor build and test.

(U) FY 2004 PLAN

- (U) (\$18.4) Continue Strategic Guidance Applications Programs (GAP). Full obligation is projected by the 3rd quarter of the 1st year. FY 2004 efforts include:
 - (U) Continue to develop alternate models for incorporation in IEE and Hardware in the Loop (HWIL). Incorporate alternate sensor technologies into virtual system and HWIL. Utilize IEE/HWIL capability to perform system architecture/design tradeoffs in support of technology down select in FY 2006 for D5 Life Extension.
 - (U) Continue to evaluate high risk/high payoff sensor technologies (accelerometer, gyro, and stellar) and proximity electronics for application in the D5 Life Extension Guidance system and/or replacement of system weak links. Continue prototype radiation-hard sensor build and test.
 - (U) Invest in non-volatile non-destructive memory development to meet MK6 Life Extension memory goals
 - (U) (Sensors) Design, build, and evaluate Silicon Oscillator Accelerometer (SOA) support electronics and improved build processes. Prove SOA capability to meet Rad-hard strategic goals
 - (U) (GYRO) Build 6-10 gyros focused on improved dynamic and radiation margin in support of Life Extension.
 - (U) (GYRO) Develop IFOG hardenable electronic circuits.

(U) FY 2005 PLAN

- (U) (\$20.6) Continue Strategic Guidance Applications Programs (GAP). Full obligation is projected by the 3rd quarter of the 1st year. FY 2005 efforts include:
 - (U) Utilize alternate models for incorporation in IEE and HWIL. Exercise alternate sensor technologies in the virtual system and the HWIL experiments. Finalize IEE/HWIL capability to an increased fidelity for system architecture/design tradeoffs in support of technology downselect by FY 2006 for D5 Life Extension.
 - (U) Continue to evaluate alternate sensor technologies, (accelerometer, gyro, and stellar) and proximity electronics for application in the D5 Life Extension Guidance system and/or replacement of system weak links. Evaluate prototype radiation-hard sensor build and test results for appropriate applications.
 - (U) Invest in non-volatile non-destructive memory development to meet MK6LE memory goals.
 - (U) (Sensors) Design, build, and evaluate SOA support electronics and improved build processes. Prove SOA capability to meet Rad-hard strategic goals
 - (U) (GYRO) Build 6-10 gyros focused on improved dynamic and radiation margin in support of Life Extension.
 - (U) (GYRO) Develop IFOG hardenable electronic circuits.
 - (U) (Stellar) Invest in Electron Bombarded (intensified) CCD and Active Pixel sensors for advanced system concepts.

R-1 SHOPPING LIST - Item No. 161 - 6 of 161 - 17

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:	
		Feb 2004	
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUMBER AND NAME	·	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	Technology Applications 2228		

B. (U) Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Strategic Propulsion Applications Program (SPAP)	0.0	7.9	39.5
RDT&E Articles Quantity			

- (U) FY 2003 PLAN NA
- (U) FY 2004 PLAN
 - (U) (\$7.9) Initiate SPAP program. Full obligation is projected by the 3rd quarter of the first year.
 - FY 2004 efforts include:
 - (U) Initiate and complete Industrial Base Assessment.
 - (U) Identify, evaluate and down select suitable technologies for boost motor test.
 - (U) Identify and evaluate suitable technologies for post boost propulsion technologies test.
 - (U) Identify and evaluate suitable technologies for ordnance technologies test.
 - (U) Identify boost motor test fabrication hardware.
- (U) FY 2005 PLAN
 - (U) (\$39.5) Continue SPAP program. Full obligation is projected by the 3rd quarter of the first year. FY 2005 efforts include:
 - (U) Continue down select process of boost motor components by testing and prepare for a boost rocket motor test demonstration.
 - (U) Initiate component tests for identified post boost control technologies.
 - (U) Initiate component tests for identified missile ordnance technologies.
 - (U) Complete fabrication of boost motor test hardware
 - (U) Identify post boost motor test fabrication hardware.
 - (U) Identify ordnance test fabrication hardware.

R-1 SHOPPING LIST - Item No. 161 - 7 of 161 - 17

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		Feb 2004
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUMBER AND NAME	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	Technology Applications 2228	

B. (U) Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Radiation Hardened Applications Program (RHAP)	0.0	12.9	20.0
RDT&E Articles Quantity			

(U) FY2003 PLANNA

(U) FY2004 PLAN

- (U) (\$129) Initiate RHAP program Full obligation is projected by the 3rd quarter of the first year.
 FY 2004 efforts include:
 - (U) Initiate and complete a Radiation Hardened Industrial Base Assessment.
 - (U) Start productization of .35 micron digital Silicon-On-Insulator (SOI) technology
 - (U) Start productization of .7 micron mixed signal SOI technology.
 - (U) Start technology/product development of atternate non-votatile memories, including Chalcogenide (CRAM), Magnetic (MRAM), and Silicon-On-Nitride (SONOS) technologies.
 - (U) Identify, evaluate and down-select a physics based model for nuclear radiation effects (Bectromagnetic Pulse ((BVP)) and X-ray) on missile and missile components.
 - (U) Identify, evaluate, and down-select a physics based modeling method for nuclear radiation effects (System Generated EMP ((SGEMP)) on missile cables and connectors.
 - (U) Identify and evaluate potential built in self test system circuit models and develop a strategy for modeling nuclear radiation effects.
 - (U) Start evaluation of post radiation SPICE models for dose rate, total ionizing dose events

U) FY2005 PLAN

- (U) (\$20.0) Continue RHAP program Full obligation is projected by the 3rd quarter of the first year.
 FY 2005 efforts include:
 - (U) Continue productization and qualification of .35 micron digital SOI technology.
 - (U) Continue productization and qualification of .7 micron mixed signal SOI technology.
 - (U) Continue physics based modeling method for nuclear radiation effects (EMP and X-ray) on missile and missile components.
 - (U) Continue physics based modeling method for nuclear radiation effects (SGEMP) on missile cables and connectors.
 - (U) Begin physics based modeling for nuclear radiation effects on modern built in self test circuits.
 - (U) Continue evaluation and validation of post radiation SPICE models for dose rate, total ionizing dose, and single event effects.

R-1 SHOPPING LIST - Item No. 161 - 8 of 161 - 17

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		Feb 2004
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUMBER AND NAME	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	Technology Applications 2228	

C. (U) Other Program Funding Summary: (Dollars in Thousands) Total Total FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost N/A N/A N/A N/A N/A N/A N/A N/A N/A

D. (U) Acquisition Strategy:

Contracts will continue to be awarded to those sources who were engaged in the TRIDENT II (D5) development program and are currently engaged in the production and/or operational support of the deployed D5/C4 Strategic Weapons Systems on the basis of Other Than Full and Open Competition pursuant to the authority of 10 U.S.C. 2304 (c) (1) and (3) implemented by FAR 6.302.-1, 3 4.

E. (U) Major Performers:

- LMMS / CA Reentry Body Systems integration (RSAP)
- NSWC / VA Heatshield Nosetip materials development (RSAP)
- ITT / CO Vulnerability and hardness technologies (RSAP)
- CSDL / MA Reentry Systems flight test instrumentation (RSAP)
- CSDL / MA Guidance Application program support (GAP)
- DOE / NM Advanced fuzing technology (RSAP)
- LMMS/CA- Missile radiation hardened electronics integration (RHAP)
- CSDL/MA- Guidance radiation hardened electronics integration(RHAP)
- DOE/NM Evaluation of candidate commercially available radiation hardened Field Programmable Gate Arrays (FPGAs) (RHAP)
- NAWC/CA Rocket motor testing & integration(SPAP)
- LMMS/CA Missile systems integration (SPAP)

CLASSIFICATION:

Exhibit R-3 Cost Ana	alveie								DATE:		Feb 2004		
APPROPRIATION/BUD			PROGRAM EI	EMENT			PROJECT NU	IMRER AND I	I NAME		reb 2004		
RDT&E, N /	BA-7			Strategic Sub	& Wpns Sys S	Spt	Technology A						
									-				
Cost Categories	Contract			Total		FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Support & Management													
Technology Applications				49.0		10-02	12.4		16.0		Cont.	Cont.	TBD
Technology Applications		NSWC / CA		35.8		10-02	5.9		6.4		Cont.	Cont.	TBD
Technology Applications		DOE / NM		12.6		10-02	0.8		0.0		Cont.	Cont.	TBD
Technology Applications		F CSDL / MA		5.5		10-02	1.0		2.1	10-04	Cont.	Cont.	TBD
Technology Applications		F KAMAN / CC)	4.5			0.0		0.0		Cont.	Cont.	TBD
Technology Applications		F ITT / CO		N/A			1.5		1.6		Cont.	Cont.	TBD
Technology Applications				106.1	13.9	10-02	18.4		20.6	10-04	Cont.	Cont.	TBD
Technology Applications				N/A			11.0		16.0	10-04	Cont.	Cont.	TBD
Technology Applications				N/A			6.8		33.5	10-04	Cont.	Cont.	TBD
Technology Applications				N/A			1.7		3.0		Cont.	Cont.	TBD
Technology Applications		DOE / NM		N/A			0.7	10-03	1.0		Cont.	Cont.	TBD
Technology Applications		DOE / NM		N/A					1.0	10-04	Cont.	Cont.	TBD
Technology Applications		NSWC / CA		N/A				40.00	0.8		Cont.	Cont.	TBD
Technology Applications		NAWC/CA		N/A			0.8		3.8	10-04	Cont.	Cont.	TBD
	VARIOUS	VARIOUS		N/A			0.5		0.4	10-04	Cont.	Cont.	TBD
Subtotal Product Develop	ment			213.5	32.9		61.5		106.2		Cont.	Cont.	TBD
Remarks:													
Total Cost				213.5	32.9		61.5	i	106.2		Cont.	Cont.	
Remarks:													

R-1 SHOPPING LIST - Item No. 161 -10 of 161 -17

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME
RDT&E, N / BA-7	PE 0101221N Strategic Sub & Wpns Sys Spt	0004	
		<u> </u>	

B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Valve Regulated Lead Acid (VRLA) Batteries		4.000	2.500	
RDT&E Articles Quantity				

Valve Regulated Lead Acid (VRLA) Batteries are sealed state-of-the-art technology that significantly reduces the maintenance involved with traditional flooded lead acic submarine batteries. VRLA eliminates the need for air agitation systems, battery make-up water additions, flash arrestors and charcoal filters. VRLA enables convenience charging, requires no special ventilation lineups, requires fewer environmental concerns and offers increased life up to 8 years. Most importantly, VRLA batteries also have many workload (quality of life) and cost reduction benefits. FY03-FY04 funds will be used to perform the initial VRLA cell design, battery well assessment studies, install and operate prototype battery cells, and develop ship alteration packages for all classes.

	FY 02	FY 03	FY 04	FY 05
Ship Control Station Obsolete Equipment Upgrade			0.094	2.020
RDT&E Articles Quantity				

In order to support the expected 42-year operational cycle for a TRIDENT submarine a Ship Control Station (SCS) and Obsolete Equipment Replacement programs needs to be instituted. The OER program will attempt to utilize the design changes that are being developed for the VIRGINIA Class SCS Hull, Mechanical and Electrical (HM&E) interfaces. The replacement SCS will utilize commercial off the shelf components and will replace existing hardware wired displays and indications with flat panel displays and indications

	FY 02	FY 03	FY 04	FY 05
Architecture Model Maintenance & COTS	0.547	0.322	0.372	0.540
RDT&E Articles Quantity				

Conduct COTS/emergent technology and CCS performance requirements evaluations supporting Trident modernization program/plans. Research and evaluate effectiveness of proposed new technology over the ships' life cycle. Analyze impacts on platform performance with proposed new technology changes using architecture models and tests. Study and identify options in selecting and installing new technology improvements. Evaluate Navigation data interface requirements to meet ECDIS-N compliance on Trident hulls. Complete CCC CONOPS study to accommodate Revision 7.3 (MK2 ECP4) installation. Provide arrangement layouts GFI to Electric Boat (EB) Ship Design Agent (SDA).

R-1 SHOPPING LIST - Item No.

161

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 11 of 17)

CLASSIFICATION:

			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY PRO	OGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME
RDT&E, N / BA-7	0101221N Strategic Sub & Wpns Sys Spt	0004	

B. Accomplishments/Planned Program (Cont.)

	FY 02	FY 03	FY 04	FY 05
Data Processing System Development		0.881		
RDT&E Articles Quantity				

To evaulate potential areas of renovation and to identify a phased approach that facilitiates the replacement of the TRIDENT CCS/DPS legacy subsystems:

Continue analysis of the physical requirements and characteristics of OER items, including the satisfaction of redundancy, survivability and maintainability requirements. Analyze and recommend applicable COTS hardware and software items, and the identification of any developmental items required for the development of the final product. Identify design options for centralized CCS anomaly, fault and failure data gathering and analysis. Identify DPS Workstation to meet high availability requirements levied by the processing of mission critical data as well as total CCS statusing and alarming in a networked environment, including the provision for a remote workstation display capability in critical spaces to provide complete CCS status monitoring and fault isolation capabilities. Prototype development is also included. Analyze networked architectures embraced by non-TRIDENT platforms for applicability. Analyze design component capture potential from the Submarine Warfare System Design and maximize commonality with proposed SSGN architecture.

Conduct system engineering working group meetings to facilitate a plan to migrate away from the DPS AN/UYK-43 computer. Analyze existing legacy AN/UYK-43 subsystem requirements and determine applicability to future CCS design with Revision 9.0 as the target revision. Identify CCS legacy functionality that may be accommodated by the DPS Workstatioin design. Analyze signals processing currently performed by the DPS (TSDC) for the Ship Control Subsystem (SCS) and for reassignment to the SCS

DPS Rev 7.3 Modifications In Support of MK2 ECP-004 NAV Interface:

In lieu of TIDS availability, modifications are necessary to the DPS to provide RLGN-like services for SSBN platforms by implementing a Network Data Processor/Server/Client capability at the DPS Mission Critical Workstation (MCW) to satisfy MK2 and ARCI needs for CCS Revision 7.3. DPS modifications in support of this capability include the serving of Nav Data to TIDS or directly to MK2/ARCI via VA Class IDL using CORBA interfaces and NTP data received from the UYK-43 to MK2/ARCI, also via VA Class IDL. Processing will also be implemented for the DPS MCW to receive health status information from MK2/ARCI for both internal DPS MCW interface statusing as well as to satisfy UYK-43 legacy subsystem user requirements. DPS AOBT processing will also be modified to accept data from ARCI via a TBD CORBA structure.

R-1 SHOPPING LIST - Item No.

161

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 12 of 17)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justific			DATE: February 2004				
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND I	NAME				
T&E, N / BA-7	PE 0101221N Strategic Sub & Wpns Sys Spt	0004	0004				
Accomplishments/Planned Program							
	FY 02 FY 03	FY 04	FY 05	٦			
Thin Plate Lead Acid Battery		1.000					
RDT&E Articles Quantity							
batteries. The increase in battery life could r	esult in a commensurate reduction in life cycle cost.						
	FY 02 FY 03	FY 04	FY 05				
	FY 02 FY 03	FY 04	FY 05				
RDT&E Articles Quantity	FY 02 FY 03	FY 04	FY 05				
	FY 02 FY 03	FY 04	FY 05				
RDT&E Articles Quantity RDT&E Articles Quantity							

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE:	
	.						February 2004
APPROPRIATION/BUDGET ACTIVITY		MENT NUMBER			PROJECT NUMBER	AND NAME	
RDT&E, N / BA-7	PE 0101221N S	trategic Sub & W	/pns Sys Spt	(0004		
C. PROGRAM CHANGE SUMMARY:							
Funding:		FY 2002	FY 2003	FY 2004	FY 2005		
Previous President's Budget: (FY 03 Pres Control	ls)	0.561	5.399	4.412	4.312		
Current BES/President's Budget (FY04 President	s Controls)	0.547	5.203	3.966	2.569		
Total Adjustments		-0.014	-0.196	-0.446	-1.743		
Summary of Adjustments							
Congressional undistributed reduction	ıs	-0.003	-0.062	-0.827	-0.450		
Reprogrammings	-			-0.500	-1.200		
FY03 Update			0.001				
FY02 Actuals		-0.011					
PBD430					0.008		
PBD426					0.012		
PBD203				-0.052	-0.052		
PBD604				-0.068	-0.066		
Inflation Savings			-0.068				
FY03 SBIR			-0.053				
BSO Adjustments			-0.014				
Thin Plate Pure Lead Batteries				1.000			
NWCF Rates Adjustments				0.001	0.005		
Subtotal		-0.014	-0.196	-0.446	-1.743		
Schedule:							
VRLA BATTERY - FY03 (1st Qtr) – Program FY04 (4th Qtr) - Cell Qualification Testing	Inception; Cell De	sign and Develop	ment				
FY05 (2nd QTR) - Certification / IOC							
Technical:							
Not Applicable □							
Not replicable							
					161		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification]	DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NA	ME
RDT&E, N / BA-7	PE 0101221N Strategic Sub & Wpns Sys Spt	0004	

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2002	<u>FY 2003</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>
267600 / 267606 BA2 OPN (Electronics)	9233	17551	8496	5265	3419	4010	4082	4159	0	56215
095000 BA1 (HM&E)	21065	39434	27604	7308	5346	12736	17149	19373	0	150015
094500 / 094505 BA1 (Batteries)	10684	13564	11386	26077	24096	30829	14396	14561	0	145593

E. ACQUISITION STRATEGY: *

VRLA Battery - The Type Commanders (TYCOMs) establish battery replacement schedules based on battery performance and maintenance availability. Beginning in FY05, NAVSEA intends to shift procurement from flooded batteries to VRLA. In FY06, the only replacement batteries available will be VRLA; thus the SHIPALT must be accomplished to support installations beginning in FY06.

Ship Control Station - The proposed architecture will consist of the following hardware components. Ship Control Panel (SCP), Ballast Control Panel (BCP), Remote Interface Controller (RIC), Remote Interface Box (RIB). The SCP will be modified be removing the existing panels and replacing them with the flat panel display that provide the operator controls and indications needed to control all plane surfaces. The existing emergency hydraulic control will be maintained.

F. MAJOR PERFORMERS: **

VRLA Batteries - NSWC Crane, In: Development engineering and test support.

GNB, Fort Smith, Arkansas: Battery cell design/development.

General Dynamics Electric Boat, Groton, Connecticut: Ship alteration package design/development.

Northrop Grumman Newport News, Newport News, VA: Ship alteration package design/development.

Ship Control Station - NSWC Carderock

Thin Plate Pure Lead Battery - NSWC Crane

- * Not required for Budget Activities 1,2,3, and 6
- ** Required for DON and OSD submit only.

CLASSIFICATION:

											DATE:					
Exhibit R-3 Cost Analysis (pag	je 1)												February 2	2004	4	
APPROPRIATION/BUDGET ACTIVI	TY	PROGRAM E	LEMENT				PROJEC	T NUI	MBER AN	ID NAI	ME					
RDT&E, N / BA-7			N Strategic Sub	& Wpns S			0004									
Cost Categories	Contract	Performing	Total		FY 03				FY 04			FY 05				
	Method	Activity &	PY s	FY 03	Award		FY 04		Award		Y 05 Cost	Award	Cost to			Target Value of Contract
	& Type	Location	Cost	Cost	Date		Cost	-	Date		JOST	Date	Complete			of Contract
					-										0.000	
Design/Development Engineering	SS/CPFF	Electric Boat, Groton, CT		0.8	100	01/03		0.094	0	1/04	0.000	N.	Λ 0.0	000	0.000 0.894	0.894
Design/Development Engineering	SS/CPFF	NG NNEWS, VA		1.2		01/03		0.000		1/04	0.000	N.		000	1.270	1.270
Design/Development Engineering	SS/PD	SUPSHIP Groton, CT		0.5		03/04		1.054		3/04	0.000	N.		000	1.554	1.554
Developmental Test & Evaluation	SS/WR	NSWC CRANE, IN			_	01/03		2.446		3/04	0.000	N.		000	3.876	3.876
Developmental Test & Evaluation	33/WK	NSWC CRANE, IN	+	1.4	-30	01/03	-	2.440	U.	13/04	0.000	IN.	A 0.0	000	3.076	3.070
Design/Development Engineering	SS/WR	NSWC Carderock, MD		0.0	100			0.000	0	1/04	2.020	01/0	0.0	000	2.020	2.020
Design/Development Engineering	SS/WR	NUWC Newport, RI	0.547	0.4		01/03		0.372		1/04	0.549	01/0		000	1.948	1.948
Developmental Test & Evaluation	SS/WR	NUWC Newport, RI	0.547	0.7	_	01/03		0.072		7170-1	0.000	01/0	+	000	0.723	0.723
Dovelopmental Foot a Evaluation	CONTIN	TOTTO HOMPOIL, ILI	1	0.,	20	01700		1			0.000		0.0	000	0.000	0.720
Subtotal Product Development			0.547	F '	203			3.966			2.569		0.	000	12.285	
															0.000	
															0.000	
															0.000	
															0.000	
															0.000	
															0.000	
															0.000	
															0.000	
Subtotal Support			0.000	0.0	000			0.000			0.000		0.	000	0.000	
Remarks:																
			D 4 CHOE	DIVIO 1 10	- "		161									

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	je 2)										February 200	4	
APPROPRIATION/BUDGET ACTIV	ITY		PROGRAM EL				PROJECT NU	JMBER AND N	NAME				
RDT&E, N / BA-7		1	PE 0101221N		& Wpns Sys	Spt	0004						
Cost Categories	Contract	Performing		Total	F) (00	FY 03	E) (0 4	FY 04	E) / 0.5	FY 05		-	
	Method & Type	Activity & Location				Award Date	FY 04 Cost	Award Date		Award Date		Total Cost	Target Value of Contract
	α rype	Location		Cost	COSI	Date	Cost	Date	Cost	Date	Complete	0.000	
							+					0.000	
												0.000	
							1					0.000	
												0.000	
												0.000	
												0.000	
Subtotal T&E				0.000	0.000		0.000		0.000		0.000	0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
Subtotal Management				0.000	0.000		0.000		0.000		0.000	0.000	
Total Cost				0.547	5.203		3.966		2.569		0.000	12.285	
Remarks:													

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Project Justification	_	_	_	_	_	DATE:				
						FEBRUA	RY 2004			
APPROPRIATION/BUDGET ACTIVITY	ER AND NAME									
RDT&E, N / BA-7										
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009			
Project Cost	1.057	5.889	8.453	8.633	8.793	8.970	9.150			
RDT&E Articles Qty										

Defense Emergency Responses Funds (DERF): Not Applicable

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project develops a Submarine Defensive Warfare System (SDWS) to improve the effectiveness and
survivability of all classes of US submarines. Acoustic Intercept consist of developing a new acoustic sensor, the Sparsely Populated Volumetric Array (SPVA), that will improve
the performance of acoustic intercept systems and will provide a ranging capability for submarines through Acoustic Rapid COTS Insertion (ARCI) and Advanced Process Build
(APB) software improvements. Next Generation Countermeasure (NGCM) efforts entails simulation and effectiveness analysis of new technologies from Future Naval
Capability (FNC) and SBIR efforts at the Weapons Analysis Facility (WAF). The WAF analysis provides the US Navy with robust testing of new hardware and software within a
detailed representation of complex acoustic environments. Anti-Torpedo Torpedo (ATT) includes integration and testing efforts that will be used to determine physical
compatibility of the Anti-Torpedo Torpedo (ATT) All Up Round (AUR) to survive storage and launch from the CSA MK2 countermeasure launcher.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificati	ion			DATE:
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	ARED AND NAME	PROJECT NUMBER AND	FEBRUARY 2004
				· · · · · · -
T&E, N /BA-7	Sub Acoustic Warfare	Dev/0101226N	Submarine Defensive W	arfare Systems/1265
Accomplishments/Planned Program				
Acoustic Intercept	FY 03	FY 04	FY 05	7
Accomplishments/Effort/Subtotal Cost	0.581	0.900	0.700	7
RDT&E Articles Quantity				
FY03 - FY04 - Continue Acoustic Intercept Tec FY03 - Conduct at Sea-Tests (TACDEVEX) FY04 - Conduct SACA/ SPVA Sea-Test to con FY05 - Participate in APB 05 Sea-Test.		figuration for FY06 prod	uction.	
WAF Analysis	FY 03	FY 04	FY 05	
WAI Alialysis	1 1 03			
Accomplishments/Effort/Subtotal Cost	0.476	1 000		
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity FY 03-06 - Continue to conduct countermease	0.476 ure proofing and effectiveness anal	1.989 ysis for designated torp	1.253 edo at Weapons Analysis Facility	r (WAF) .
RDT&E Articles Quantity FY 03-06 - Continue to conduct countermease ATT AUR Development	ure proofing and effectiveness anal			(WAF).
RDT&E Articles Quantity FY 03-06 - Continue to conduct countermease ATT AUR Development Accomplishments/Effort/Subtotal Cost	ure proofing and effectiveness anal	ysis for designated torp	edo at Weapons Analysis Facility	(WAF).
RDT&E Articles Quantity FY 03-06 - Continue to conduct countermease ATT AUR Development Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	ure proofing and effectiveness anal	ysis for designated torp FY 04 0.000	edo at Weapons Analysis Facility FY 05 6.500	
RDT&E Articles Quantity FY 03-06 - Continue to conduct countermease ATT AUR Development Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity FY 05 - Begin commonality Integration/develor FY 06 - Continue ATT Development and Subr NGCM Accomplishments/Effort/Subtotal Cost	ure proofing and effectiveness anal FY 03 0.000 pment of ATT AUR for Submarine	ysis for designated torp FY 04 0.000 using a modified Subma	edo at Weapons Analysis Facility FY 05 6.500 Trine CSA MK 2 Launcher system	n.
RDT&E Articles Quantity FY 03-06 - Continue to conduct countermease ATT AUR Development Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity FY 05 - Begin commonality Integration/development and Subr	FY 03 0.000 Dependent of ATT AUR for Submarine marine Integration. Conduct at-sea	ysis for designated torp FY 04 0.000 using a modified Subma Submarine Launch Cap	FY 05 6.500 Trine CSA MK 2 Launcher system ability Test using a modified CSA	n.
RDT&E Articles Quantity FY 03-06 - Continue to conduct countermease ATT AUR Development Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity FY 05 - Begin commonality Integration/develor FY 06 - Continue ATT Development and Subr NGCM Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity FY06-Begin transition of Future Naval Capab SLWW	Proofing and effectiveness analogous popular of ATT AUR for Submarine marine Integration. Conduct at-sea FY 03	ysis for designated torp FY 04 0.000 using a modified Subma Submarine Launch Cap FY 04 0.000 g fleet countermeasures	FY 05 6.500 arine CSA MK 2 Launcher system ability Test using a modified CSA FY 05 0.000 FY 05	n.
RDT&E Articles Quantity FY 03-06 - Continue to conduct countermease ATT AUR Development Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity FY 05 - Begin commonality Integration/develor FY 06 - Continue ATT Development and Subr NGCM Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity FY06-Begin transition of Future Naval Capab	Proofing and effectiveness analogous popular of ATT AUR for Submarine marine Integration. Conduct at-sea FY 03 0.000 FY 03 0.000 iility (FNC) technologies into existin	ysis for designated torp FY 04 0.000 using a modified Subma Submarine Launch Cap FY 04 0.000 g fleet countermeasures	FY 05 6.500 arine CSA MK 2 Launcher system ability Test using a modified CSA FY 05 0.000	n.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM F	ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND N	FEBRUARY 2004
RDT&E, N /BA-7		stic Warfare Dev			Submarine Defensive Wa	
C. PROGRAM CHANGE SUMMARY:				l		7
Eunding		FY 2003	FY 2004	FY 2005		
Funding: Previous President's Budget: (FY 04 Pres Con	trole)	1.065	2.955	8.580		
Current President's Budget: (FY05 Pres Control		1.057	5.889	8.453		
Total Adjustments	510)	-0.008	2.934	-0.127		
Summary of Adjustments						
Miscellaneous Adjustment		-0.008	-0.066	-0.127		
Submarine Launched Littoral Warfare Congressiona	al Plus-Up	0.000	3.000	0.000		
Subtotal		-0.008	2.934	-0.127		
Schedule:						
Scriedule.						
Not Applicable						
Technical:						
Not Applicable						

CLASSIFICATION:

				DATE: FEBRUARY 2004				
PROGRAM E	LEMENT NUM	BER AND NAM	ИΕ	PROJECT NU	JMBER AND N	AME		
Sub Acous	tic Warfare	Dev/010122	6N	Submarine D	efensive Wa	rfare System	s/1265	
							T .	Tatal
FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total <u>Cost</u>
20.485	25.937	20.857	23.563	25.326	25.924	31.314	CONT.	CONT.
	Sub Acous	Sub Acoustic Warfare FY 2003 FY 2004	Sub Acoustic Warfare Dev/010122 FY 2003 FY 2004 FY 2005		Sub Acoustic Warfare Dev/0101226N Submarine D FY 2003 FY 2004 FY 2005 FY 2006 FY 2007	Sub Acoustic Warfare Dev/0101226N Submarine Defensive Warfare Dev/0101226N FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008	Sub Acoustic Warfare Dev/0101226N Submarine Defensive Warfare System FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009	PROGRAM ELEMENT NUMBER AND NAME Sub Acoustic Warfare Dev/0101226N Submarine Defensive Warfare Systems/1265 To FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete

CLASSIFICATION:

										DATE:				
Exhibit R-3 Cost Analysis		1				T						FEBRUARY 2	004	
APPROPRIATION/BUDGET AC RDT&E, N /BA-7	CTIVITY	PROGRAM Sub Acou	ELEMENT ustic Warfare	Dev/01012	26N	PROJECT NU Submarine I		NAME arfare Systen	ns/1265					
Cost Categories	Method	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Analysis	WX	NUWC Newport, RI	0.000	0.807	12/02	0.600	12/03	1.047	12/04			CONT	0.000	
Systems Engineering	WX	NUWC Newport, RI	0.000	0.000)	0.900	02/04	0.500				CONT	. 0.000	
Systems Engineering	CPFF	PSU, State College, PA	0.000	0.000		0.000		5.971	02/05			CONT	0.000	
SLWW		Raytheon Middleton, RI	0.000	0.000)	3.000	04/04	0.000				CONT	. 0.000	
Subtotal Product Development Remarks:			0.000	0.807	,	4.500	o	7.51	8				12.825	
·			0.000	0.807	•	4.500	o	7.51	8				12.825	
			0.000	0.807		4.500) <u> </u>	7.51	8				12.825	
Remarks:			0.000	0.807		4.500		7.51	8					
Remarks: Development Support			0.000	0.807		4.500		7.51	8				0.000	
Remarks: Development Support Software Development Training Development			0.000	0.807		4.500		7.51	8				0.000	
Remarks: Development Support Software Development Training Development			0.000	0.807		4.500		7.51	8				0.000 0.000 0.000	
Remarks: Development Support Software Development Training Development Integrated Logistics Support			0.000	0.807		4.500		7.51	8				0.000 0.000 0.000 0.000	
Remarks: Development Support Software Development Training Development Integrated Logistics Support Configuration Management			0.000	0.807		4.500		7.51	8				0.000 0.000 0.000 0.000 0.000	
Remarks: Development Support Software Development Training Development Integrated Logistics Support Configuration Management Technical Data			0.000	0.807		4.500		7.51					0.000 0.000 0.000 0.000 0.000	

CLASSIFICATION:

								DATE:		DATE:				
Exhibit R-3 Cost Analysis (pa	ge 2)											FEBRUARY 2	004	
APPROPRIATION/BUDGET ACTIV	/ITY	PROGRAM				PROJECT NU	JMBER AND N	IAME						
RDT&E, N /BA-7			ustic Warfare	e Dev/01012		Submarine I		arfare System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	и турс	Location	COST	Oost	Date	0031	Date	0031	Date	0031	Date	Complete	0.000	
Operational Test & Evaluation													0.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			0.000	0.000	1	0.000		0.000					0.000	
Contractor Engineering Support Government Engineering Support	1									1			0.000	
	C/CPFF	EG&G Gaithersburg, MD	0.000	0.200	00/00	0.200	44/00	0.200	44/04		+	CONT		
Program Management Support Travel	C/CPFF	PMS415	0.000	•		0.200	1	0.200	1			CONT		_
Labor (Research Personnel)		FW3413	0.000	0.050	11/02	0.050	11/03	0.050	11/04			CONT	0.000	
SBIR Assessment						-							0.000	
Subtotal Management			0.000	0.250		0.250	1	0.250					0.750	
Remarks:													1	
Total Cost			0.000	1.057	'	5.889)	8.453					15.399	
Remarks:														

CLASSIFICATION:

IATION/BUDGET ACTIVITY	PROC	GRAM ELEMENT	NUMBER AND NAME	IF	ROJECT NUME	BER AND NAME	1 2 5	RUARY 2004
N /BA-7			fare Dev/0101226			ensive Warfare S	Systems/1265	
	10000			1-			.,	
	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09
		Sensor D	evelopment					
Acoustic Intercept		At-	Sea Tests (TACDE)	/EX)				
Improvement Initiative - SPVA			<u> </u>	 ACA / SPVA Se	l ea-Test			
	Transition	Phase			Participate	in APB 05 Sea- ⁻	l Test 	
Anti-Torpedo Torpedo				ATT AUR Co	ommonality/ Ir	tegration	L	
Magaza Anglesia Facilite								
Weapons Analysis Facility			СМ	Effectiveness /	WAF Threat	Vulnerability		
NGCM						Next	Generation CM	

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
						Februa	y 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	CLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA-7			0101402N Navy S	trategic Communic	ations	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	14.637	23.035	31.391	32.538	23.406	17.591	
H0793 E-6 Service Life Assessment	0.795	3.093	3.228	4.217			
H3002 Navy Strategic Communications Block 1	13.842	19.942	28.163	28.321	23.406	17.591	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(H0793) A Service Life Assessment of selected critical components will be performed on the E-6B. The original service life of this airframe was 27,000 hours based on a prescribed weight and expected operational usage. Current weight and operational usage exceed those original values and lessen, by some unknown value, the original 27,000 hour airframe service life. The contractor will analyze fleet aircraft and review onboard recorder data in order to generate an updated loads spectrum. The contractor will update the external/internal loads analysis associated with the updated loads spectrum and operational usage data. Utilizing the data from the first two steps, the contractor will update the existing E-6 Durability and Damage Tolerance Assessments. This data will then allow the contractor to update the Reliability-Centered Maintenance (RCM) analysis, Individual Aircraft Tracking (IAT), and optimize the E-6 Maintenance Plans. The contractor will perform preliminary high level trade studies of potential modifications to increase the service life.

(H3002) The E-6B Block I program corrects Airborne National Command Post program FOT&E operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupportable mission systems by 2010. Block I consists of the design, development, integration, and testing of the replacements for the existing Digital Airborne Intercommunications Switching System (DAISS)/Intercommunications System (ICS), Mission Computer System (MCS), and Ultra-High Frequency Command, Control and Communications (UHF C3) system. The Block I project also incorporates an Open Systems Architecture (OSA), adds improved operator workstations throughout the aircraft, which in addition to reducing workload and improving system interoperability, provides a foundation for future evolutionary upgrades. Other modifications enhance power and cooling capabilities for ground operations without any ground support.

Block I is STRATCOM's FY02 Integrated Priority List (IPL) no. 1 item and is fully supported in STRATCOM's FY03 IPL. Secretary of Defense's March 2003 Nuclear Posture Review implementation requires that the service fund E-6 sustainability, survivability, and modernization. The 2004-2009 Defense Planning Guidance supports accelerated completion of the Block I program.

R-1 SHOPPING LIST - Item No.

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UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 17)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0101402N Navy St	rategic Communica	ations		H0793 E-6 Service	Life Assessment		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		0.795	3.093	3.228	4.217			
RDT&E Articles Qty			-	•				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(H0793) A Service Life Assessment of selected critical components will be performed on the E-6B. The original service life of this airframe was 27,000 hrs based on a prescribed weight and expected operational usage. Current weight and operational usage exceed those original values and lessen, by some unknown value, the original 27,000 hr airframe service life. The contractor will analyze fleet aircraft and review onboard recorder data in order to generate an updated loads spectrum. The contractor will update the external/internal loads analysis associated with the updated loads spectrum and operational usage data. Utilizing the data from the first two steps, the contractor will update the existing E-6 Durability and Damage Tolerance Assessments. This data will then allow the contractor to update the Reliability-Centered Maintenance (RCM) analysis, Individual Aircraft Tracking (IAT), and optimize the E-6 Maintenance Plans. The contractor will perform preliminary high level trade studies of potential modifications to increase the service life.

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N / BA-7	0101402N Navy Strategic Communications	H0793 E-6 Service Life Asse	essment	
RDI&E, N / BA-7	0101402N Navy Strategic Communications	H0793 E-6 Service Life Asse	essment	

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Engineering and Technical Support / \$7.116	0.795	3.093	3.228
RDT&E Articles Quantity N/A			

Funding supports the E-6 Service Life Assessment Program, which includes the following efforts: Assemble and deliver GFI; review and correct CDRLs; assist contractor in developing critical location selection criteria; perform RCM Analysis; assess scheduled maintenance impacts; perform supportability analysis; attend technical review meetings; determine the load-to-strain/stress relationships for each critical location; generate a service spectra and calculate critical location fatigue lives that 85 percent of the fleet should exceed; perform damage tolerance analysis to determine critical location inspection techniques and intervals; evaluate life enhancement potential for life-critical locations; modify the LOOPIN fatigue damage algorithms to accept available individual aircraft data (3M, NAVAIR form 13920/1, Structural Data Recording Set (SDRS), and structural configuration) to calculate individual aircraft data (3M, NAVAIR form 13920/1, Structural Data Recording Set (SDRS), and structural configuration) to calculate individual aircraft data (3M, NAVAIR form 13920/1, Structural Data Recording Set (SDRS), and structural configuration) to calculate individual aircraft crack size (growth) values for all critical locations.

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AN	O NAME	
RDT&E, N / BA-7	0101402N Navy Strategic Communications		H0793 E-6 Service Life A	ssessment	
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	2.829	3.128	0.979		
Current BES/President's Budget	0.795	3.093			
Total Adjustments	-2.034	-0.035	2.249		
Summary of Adjustments					
Congressional program reduct					
Congressional undistributed re	eductions	-0.035			
Congressional rescissions	0.057				
SBIR/STTR Transfer Economic Assumptions	-0.057		-0.011		
Reprogrammings	-1.977		-0.011		
Other Navy/OSD Adjustments					
Congressional increases					
Reprioritization			2.260		
Subtotal	-2.034	-0.035			
Schedule:					
The change in schedule is due to the fu	nding realignment that occurred during the Navy's review	of the SLAP	budget.		
Technical:					
Not Applicable					
	R-1 SHOPPING LIST -	Itam Na	164		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:			
								Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME PROJECT						IAME			
RDT&E, N / BA-7	0101402N Nav	y Strategic Co	mmunications		H0793 E-6 Se	vice Life Asse	sessment			
D. OTHER PROGRAM FUNDING SUMMARY: Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	EV 2007	FY 2008	EV 2000	To Complete	Total	
Line item No. & Name	<u>F1 2003</u>	<u>F1 2004</u>	F1 2005	<u>F1 2006</u>	FY 2007	<u>FY 2008</u>	<u>FY 2009</u>	<u>Complete</u>	<u>Cost</u>	
056400 E-6A/B Series	56.076	48.157	19.721	11.462	17.568	59.687	69.158	232.475	514.304	

E. ACQUISITION STRATEGY: *

SLAP will be a sole source program due to the proprietary nature of the data needed to complete required studies and analyses. This will be a Cost Reimbursable Contract. Contract Award is expected in 2nd quarter FY04. SLAP analysis is the precursor to an effective SLEP program, needed to keep this aircraft a viable Strategic Asset.

F. MAJOR PERFORMERS: **

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	je 1)										February 200)4	
APPROPRIATION/BUDGET ACTIV	ITY		PROGRAM EI					UMBER AND					
RDT&E, N / BA-7			0101402N Nav		mmunications		H0793 E-6 S	ervice Life Ass	sessment				
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05 Cost	Award		Total	Target Value of Contract
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete		
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
Subtotal Product Development				0.000	0.000		0.00	0	0.000)	0.000	0.000	
Studies & Analyses	SS/CPFF	Boeing Seattle	. WA				2.34	8 03/04	1.537	10/04	1.252	5.137	5.137
Studies & Analyses - IAT		Boeing Seattle							0.664		1.879	2.543	
•			,									0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
Subtotal Support				0.000	0.000		2.34	8	2.201		3.131	7.680	
Remarks:													
				R-1 SHOE	PING LIST	- Itam No	164						

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)									February 200)4	
Exhibit R-3 Cost Analysis (pag APPROPRIATION/BUDGET ACTIVI	TY	PROGRAM E	ELEMENT			PROJECT NU	IMBER AND I	NAME		•		
RDT&E, N / BA-7		0101402N N	avy Strategic Co	mmunications		H0793 E-6 Se	rvice Life Ass	essment				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &		FY 03	Award		Award		Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Government Engineering Support	WX	NAWCAD PAX RIVER, MD		0.544	10/02	0.398	10/03	0.545	10/04	0.573	2.060	
Government Engineering Support	WX	NADEP JAX, FL		0.251	10/02	0.327	10/03	0.462	10/04	0.493	1.533	
Travel	Various	Various				0.020	Various	0.020	Various	0.020	0.060	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.000	0.795		0.745		1.027		1.086	3.653	
Remarks:												
Total Cost	·		0.000	0.795	_	3.093	_	3.228		4.217	11.333	
Remarks: There is no Product Dev	relopment	related to this program.										

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE		F	ebrua	ary 20	04		
APPROPRIATION/BUDGET														R AND		E									D NAN							
RDT&E, N /	BA-7								01014	02N N	lavy S	trategi	Comi	munica	tions						H0793	3 E-6 S	Service	Life A	Assess	ment						
Fiscal Year		20	02			20	03			20	04			200)5			200	06			20	07			20	08			200)9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Contract Award										\triangle	Coi	ntract /	Award																			
SLAP Phase 1 - Load and Stress Analysis and Critical Area Selection																		Pha	ase 1													
SLAP Phase 2 - Detailed Analysis of Critical Areas with SLEP Modification Recommendations																					Pha	ase 2										
SLAP Phase 3 - Individual Aircraft Tracking (IAT) System																						Phase	e 3									

 $^{^{\}ast}$ Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&E, N / BA-7	0101402N Na	vy Strategic Co	mmunications		H0793 E-6 Se	rvice Life Asse	ssment	
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Contract Award			2Q					
SLAP Phase 1			2Q-4Q	1Q-4Q				
SLAP Phase 2				3Q-4Q	1Q-4Q			
SLAP Phase 3 - IAT				3Q-4Q	1Q-4Q			
					-			

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0101402N Navy St	rategic Communica	tions		gic Communications			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		13.842	19.942	28.163	28.321	23.406	17.591	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(H3002) The E-6B Block I program corrects Airborne National Command Post program FOT&E operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupportable mission systems by 2010. Block I consists of the design, development, integration, and testing of the replacements for the existing Digital Airborne Intercommunications Switching System (DAISS)/Intercommunications System (ICS), Mission Computer System (MCS), and Ultra-High Frequency Command, Control and Communications (UHF C3) system. The Block I project also incorporates an Open Systems Architecture (OSA), adds improved operator workstations throughout the aircraft, which in addition to reducing workload and improving system interoperability, provides a foundation for future evolutionary upgrades. Other modifications enhance power and cooling capabilities for ground operations without any ground support.

Block I is STRATCOM's FY02 Integrated Priority List (IPL) no. 1 item and is fully supported in STRATCOM's FY03 IPL. Secretary of Defense's March 2003 Nuclear Posture Review implementation requires that the service fund E-6 sustainability, survivability, and modernization. The 2004-2009 Defense Planning Guidance supports accelerated completion of the Block I program.

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	ion		DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME
RDT&E, N / BA-7	0101402N Navy Strategic Communications	H3002 Navy Stategic Comm	nunications Project Block 1
		<u> </u>	

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Acquisition Planning & Milestone Documentation /\$18.061M	6.977	5.176	5.908
RDT&E Articles Quantity N/A			

Funding supports acquisition planning initiation, acquisition strategy development & implementation, requirements and request for proposal development & refinement, industry conferences, DoD 5000 series document development, program management, technical review and oversight, Systems Integration Lab preparation, contract award activities, preliminary and critical design reviews, CDRL reviews, technical interchange meetings, developmental and operational test and evaluation planning, in support of government review and design approval for the replacement of DAISS, MCS, UHF C3 System, incorporation of OSA with new servers and operator stations, and fixes in ground power and cooling capabilities for austere operations.

	FY 03	FY 04	FY 05
Engineering, Mgmt., Studies & Analysis / \$13.920M	6.865	3.751	3.304
RDT&E Articles Quantity N/A			

Funding supports engineering, management, trade studies, and studies and analysis contract support services for acquisition planning and development of acquisition documents, schedule development and monitoring, industry day conferences, DoD 5000 series document development, Request for Proposal (RFP) development, engineering and C3 architectural studies and analysis, Systems Integration Lab preparation, logistics planning, training planning and CDRL reviews for the replacement of DAISS, MCS, UHF C3 System, incorporation of OSA with new servers and operator stations, and fixes in ground power and cooling capabilities for austere operations.

	FY 03	FY 04	FY 05
Prime System Development / \$29.966M		11.015	18.951
RDT&E Articles Quantity N/A			

Funding supports all prime contract tasks following award for Block I program initiation, engineering research, design development, integration and test of OSA, MCS, DAISS, power, cooling, and other subsystems related to Block I; preparations (engineering, logistics, training) for PDR and CDR, preparation for and presentation of the Block I design, contractor developmental test and evaluation planning, and leading to LRIP approval and award.

R-1 SHOPPING LIST - Item No.

164

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 11 of 17)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND	NAME	
RDT&E, N / BA-7	0101402N Navy Strategic Communications		H3002 Navy Stategic Com	nmunications Project Blo	ock 1
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	18.073	24.229			
Current BES/President's Budget	13.842	19.942			
Total Adjustments	-4.231	-4.287	-3.549		
Summary of Adjustments Congressional program reductions Congressional undistributed reductions Congressional rescissions		-0.297			
SBIR/STTR Transfer	-0.215				
Economic Assumptions			-0.074		
Reprogrammings	-4.016				
Other Navy/OSD Adjustments					
Congressional increases					
Reprioritization		-3.990			
Subtotal	-4.231	-4.287	-3.549		
Schedule: The change in schedule is a result of PR-05 and	other funding realignments to the E-6 Block 1 Pro	gram.			
Ç		•			
Technical:					
Not Applicable					
	D 4 CHODDING LICT III		161		

CLASSIFICATION:

2.,	roject Justification							DATE:	Februa	ary 2004
ROPRIATION/BUDGET /	CTIVITY	PROGRAM EI	EMENT NUM	IBER AND NAM	ΛE	PROJECT NU	MBER AND N	AME		•
T&E, N /	BA-7	0101402N Na	y Strategic Co	ommunications		H3002 Navy S	stategic Comm	unications Pro	ject Block 1	
D. OTHER PROGRAM	FUNDING SUMMARY:									
Line Item No. & Nam		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>
056400 E-6A/B Se	ries	56.076	48.157	19.721	11.462	17.568	59.687	69.158	232.475	514.304
E. ACQUISITION STRAT	EGY: *									
Competitively Awa	rd Cost Plus Development Contr	act with follow on FFP Proc	luction Contra	ct.						
F. MAJOR PERFORMER	'S: **									

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (page	ge 1)									February 200)4	
APPROPRIATION/BUDGET ACTIV	/ITY											
RDT&E, N / BA-7				ommunications		H3002 Navy S						
Cost Categories		Performing	Total	E) (00	FY 03	57.04		E) / 05				
	Method & Type	PROGRAM ELEMENT PROJECT NUMBER AND NAME 0101402N Navy Strategic Communications H3002 Navy Stategic Communications Project Block 1 Performing	Target Value of Contract									
Primary Hardware Development	C/CPAF		Cost	Cost	Date							
Primary Hardware Development	C/CPAF	טפו				11.015	02/04	16.951	10/04	45.034		
	+											
	+											
	+											
Subtotal Product Development			0.000	0.000		11.015	5	18.951		45.634	75.600	
Studies & Analyses	RX	Various A&AS	0.571	1.464	10/02	0.795	10/03	0.617	10/04	1.622	5.069	
-											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.571	1.464		0.795	5	0.617		1.622	5.069	
Remarks:												
			D_1 QUOE	PPING LIST	Itom No	164						

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (page	ge 2)										February 200	04	
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM I	ELEMENT			PROJECT NU	JMBER AND	NAME		-		
RDT&E, N / BA-7			0101402N N	avy Strategic Co	ommunications		H3002 Navy S	Stategic Comr	munications Pro	ject Block 1			
Cost Categories	Contract		•	Total		FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	WX	NAWCAD, Pa									0.632		
Operational Test & Evaluation	WX	NAWCAD, Pa	ax River, MD								1.095	1.095	1
												0.000	
												0.000	1
												0.000	1
												0.000)
												0.000	,
Subtotal T&E				0.000	0.000		0.000		0.000	D	1.727	1.727	
Program Management Support	RX	Various A&AS		1.105	2.850	10/02	1.065	10/03	0.831	1 10/04	1.754	7.605	1
Government Engineering Support	WX	NAWCAD, Pax	River, MD	1.475	5.927	10/02	3.506	10/03	4.027	7 10/04	10.335	25.270	,
Government Engineering Support	WX	NADEP JAX, F	īL.	0.102	0.100	10/02	0.497	10/03	0.558	10/04	1.260	2.517	
Government Engineering Support	WX	NAWCTSD, O	rlando, FL		0.269	10/02	0.273	10/03	0.277	7 10/04	0.599	1.418	,
Government Engineering Support	Various	Various			0.466	10/02	0.400	10/03	0.546	10/04	0.840	2.252	
Contractor Engineering Support	RX	Various A&AS		1.173	2.551	10/02	1.891	10/03	1.856	10/04	4.047	11.518	,
Travel	WX	NAWCAD, Pax	River, MD	0.128	0.215	Various	0.500	Various	0.500) Various	1.500	2.843	
Subtotal Management				3.983	12.378		8.132	2	8.595	5	20.335	53.423	,
Remarks:													
Total Cost				4.554	13.842		19.942	2	28.163	3	69.318	135.819	,
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule P																									DATE		Fe	ebrua	ry 20	04	
APPROPRIATION/BUDGET											ELEM					E								ER ANI			Б.	. 51			
RDT&E, N /	BA-7								01014	02N N	lavy St	rategic	Comi	munica	itions						H3002	2 Navy	State	gic Co	mmuni	cations	s Proje	ct Bloc	k 1		
Fiscal Year		200)2			20	03			20	04			20	05			20	06			20	07			20	80			200	9
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
Acquisition Milestones				Contr	act Pre	p																									
Contract Preparation								ourco 9	 Selection	on.																					
Source Selection							30	Juice	Selection																						
Milestone B									MS E																						
Contract Award										\bigcap	Contra	act Aw	ard																		
Milestone C																						MS	c /								
System Development																															
Preliminary Design Review												PDR	\wedge																		
Critical Design Review														CDR	1																
System Integration Lab																			L Sy	stems	Integra	tion L	l ab								
Aircraft Installation																				l	Air	craft Ir	l nstalla I	l tion I							
Test & Evaluation Milestones																						T/DT									
Contractor/Developmental Test																						T/DT	5								
(CT/DT)																							<u>P</u>	I PEVAL							
Operational Test (OPEVAL)																							L								
Production Milestones																															
LRIP Phase																							LRIP	Phase		I				1	<u> </u>
Full Rate Production Decision/Start																									FI	 RP De 	cision	\triangle			
First Deployment																												Fir	rst Dep	loy	☆
IOC																													 	OC De	c 10 太 –

^{*} Not required for Budget Activities 1, 2, 3, and 6

UNCLASSIFIED

Exhibit R-4, Schedule Profile (Exhibit R-4, page 16 of 17)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						ı	February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&E, N / BA-7	0101402N Na	vy Strategic Co	mmunications		H3002 Navy S	Stategic Commi	unications Proje	ect Block 1
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Contract Preparation	2Q-4Q	1Q-3Q						
Source Selection		3Q-4Q	1Q-2Q					
Milestone B (MS B)			2Q					
Contract Award			2Q					
Preliminary Design Review (PDR)				1Q				
Critical Design Review (CDR)				3Q				
System Integration Lab				3Q-4Q	1Q-3Q			
Aircraft Installation					3Q-4Q	1Q		
Contractor/Developmental Testing (CT/DT)						1Q-3Q		
Milestone C (MS C)						3Q		
Operational Testing (OPEVAL)						3Q-4Q		
LRIP Phase							1Q-4Q	1Q-4Q
Full Rate Production (FRP) Decision/Start							4Q	
First Deployment								3Q
IOC								2Q FY11

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET Exhibit R-2

DATE: Feb 2004

BA: 07 PROGRAM ELEMENT: 0203761N

PROGRAM ELEMENT TITLE: Rapid Technology Transition (RTT)

COST: (Dollars in Thousands)

Project B Number & Title	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
R4021 Rap	id Techn	ology Transi	tion (RTT)				
	0	9,889	14,630	14,661	14,659	14,677	14,694
Totals	0	9,889	14,630	14,661	14,659	14,677	14,694

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the Rapid Technology Transition (RTT) program is to increase the rate at which new, innovative, and potentially disruptive technology is inserted into Department of Navy (DoN) acquisition programs and the hands of the warfighter. A key aspect of the RTT program is its charter to transition technology from any source, including those not traditionally associated with defense technology. An effective and robust integration of commercial and military technologies can reduce costs and improve Naval capabilities, but only if technology transition can keep pace with fast moving changes in technologies and operational needs. The RTT program is structured to bring transition deals to closure quickly, and to provide execution year funding for a rapid start, bridging the gap until the program of record can fund the completion of the technology insertion.

Rapid transition opportunities occur when a sufficiently mature technology is identified that can meet a particular need on a timetable which matches that of an acquisition program, and is supported by a business case which justifies the associated cost and schedule risk. The combination of circumstances which create such opportunities can appear, and disappear, well inside the Program Objectives Memorandum (POM) cycle. The RTT program is designed to be pro-active in identifying opportunities and to work with resource sponsors, fleet and force users, and program managers in constructing viable technology transition deals one at a time.

To ensure the widest possible awareness of emergent commercial technology opportunities, RTT will interact with the venture capital community and industry. The RTT program will coordinate closely with Program Executive Offices (PEOs) and Program Managers (PMs) to maintain awareness of insertion opportunities. Utilizing existing authorities, RTT will apply execution year funds where necessary to "jump-start" transitions so they can be inserted and validated by Sea Trial experiments leading directly to deployment and/or demonstrations of high risk/high payoff technologies.

R1 Line Item 165 Page 1 of 5

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004 Exhibit R-2

BA: 07 PROGRAM ELEMENT: 0203761N

PROGRAM ELEMENT TITLE: Rapid Technology Transition (RTT)

PROGRAM CHANGE SUMMARY:

	FY 2003	FY 2004	FY 2005
FY 2004-2005 President's Budget Submission	0	14,662	14,683
Cong. Rescissions/Adjustments/Undist.Reductions	0	-111	0
Congressional Actions	0	-4,662	0
Inflation Savings	0	0	-47
Technical Adjustments	0	0	-6
FY 2005 President's Budget Submission	0	9,889	14,630

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: Not applicable. Schedule: Not applicable.

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004
Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0203761N PROGRAM ELEMENT TITLE: Rapid Technology Transition (RTT)

PROJECT NUMBER: R4021 PROJECT TITLE: Rapid Technology Transition (RTT)

COST: (Dollars in Thousands)

Project FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Number Actual Estimate Estimate Estimate Estimate Estimate

& Title

R4021 Rapid Technology Transition (RTT)

0 9,889 14,630 14,661 14,659 14,677 14,694

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the Rapid Technology Transition (RTT) program is to increase the rate at which new, innovative, and potentially disruptive technology is inserted into Department of Navy (DoN) acquisition programs and the hands of the warfighter. A key aspect of the RTT program is its charter to transition technology from any source, including those not traditionally associated with defense technology. An effective and robust integration of commercial and military technologies can reduce costs and improve Naval capabilities, but only if technology transition can keep pace with fast moving changes in technologies and operational needs. The RTT program is structured to bring transition deals to closure quickly, and to provide execution year funding for a rapid start, bridging the gap until the program of record can fund the completion of the technology insertion.

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R1 Line Item 165
Page 3 of 5

FY 2005 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0203761N PROGRAM ELEMENT TITLE: Rapid Technology Transition (RTT)

PROJECT NUMBER: R4021 PROJECT TITLE: Rapid Technology Transition (RTT)

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2003	FY 2004	FY 2005
RTT	0	9,889	14,630

FY 2003 Accomplishments: Not Applicable

FY 2004 Plans:

This project will be managed by the Commercial Technology Transition Office (CTTO) within the Office of Naval Research. Initial program efforts will include:

- Develop and execute a process and a supporting data base for matching technology insertion opportunities with high priority needs. This process will include interfaces with the technology, acquisition, resource sponsor and user communities, and with industry.
- Broker high payoff technology transition deals with programs of record, using RTT as the source of bridge funding for a rapid start. Opportunities under evaluation in FY 2004 include: Advanced Hawkeye Alternate Transmitter; Ship Service Fuel Cell; Aircraft Weapon Inventory Management System; Battle Force E-mail for P-3C; Commercial Bandwidth Optimization for Surface Ships; Secure High Frequency (HF) Internet capability for E-2C; Fiber Optic Splicing for F/A-18; Metal Matrix Composite Shaft Seals for DDG-51; On-Board Vehicle Power for USMC HMMWVs; Commercial Precision Landing for E-2C; Automated E-2C Air Tasking Order capability for Joint targeting.

Engage the venture capital (VC) community to identify innovative technology sources that might not otherwise be visible to DoD. Venture Capitalists (VCs) invest in small, agile, technology companies whose products often have dual use potential. The RTT will follow up on leads from VCs, and work directly with VC-backed portfolio companies and Naval programs of record to develop technology transition deals for product variants that will meet defense system needs. Engaging the VC community will increase DoN awareness, leverage commercial investments, and reduce time to market for technologies to meet current naval needs. Evaluate various rapid technology transition strategies and business models via role-playing "war games" and other means. The RTT will support senior acquisition decision makers by conducting assessments and

other means. The RTT will support senior acquisition decision makers by conducting assessments and creating roadmaps of alternate transition paths. Benefits include evaluating various business models with

R1 Line Item 165 Page 4 of 5

FY 2005 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0203761N PROGRAM ELEMENT TITLE: Rapid Technology Transition (RTT)

PROJECT NUMBER: R4021 PROJECT TITLE: Rapid Technology Transition (RTT)

minimum expenditure of resources, and applying Lessons Learned to business approaches.

FY 2005 Plans:

- Continue RTT initiatives. Execute the process developed in FY 04 to broker a new set of technology transition deals enabled by FY 2005 RTT bridge funding, using the insight into acquisition and warfighter needs gained through development of the FY 2004 transitions to increase the innovation and impact of the FY 2005 transition deal set. The goal is to complete 5-8 new technology transition deals. Projects are expected to be similar in nature to the deals closed in FY 2004, with substantial improvements in performance, readiness, and/or total ownership costs in response to needs identified by programs of record.
- Complete FY 2004 transitions. Complete transitions initiated in FY 2004 such as: Battle Force E-mail for P-3C, Commercial Bandwidth Optimization for Surface Ships and Automated E-2C Air Tasking Order for Joint targeting. Monitor technical and programmatic progress towards acquisition of all transitions initiated in FY 2004.
- Continue RTT venture initiatives. Expand activities to follow up on VC leads generated through the Naval Research Advisory Committee (NRAC) panel on Venture Capital. Utilize leading commercial (non-defense industry) trends identified by the NRAC VC panel to guide development of FY 2005 RTT transition deals.

C. OTHER PROGRAM FUNDING SUMMARY:

RELATED RDT&E: All technology investments in DoN.

NON-NAVY RELATED RDT&E: All technology investments outside DoN.

D. ACQUISITION STRATEGY:

Utilize existing authorities on a case-specific basis to exploit rapid technology transition opportunities.

R1 Line Item 165
Page 5 of 5

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
						Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	CLATURE	•	
RESEARCH DEVELOPMENT TEST & EVALUATION, N	IAVY / BA-7			0204136N F/A-1	18 SQUADRONS	1	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	204.131	172.743	134.580	82.998	17.949	14.145	11.088
E1662 F/A-18 Improvements	88.742	64.504	44.296	14.603	11.320	10.908	11.088
E2065 F/A-18 RADAR Upgrade	104.691	108.239	90.284	68.395	6.629	3.237	
E9267 F414 Engine Durability Improvements	6.655						
E9268 APG-73 Radar Upgrade	4.043						

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The F/A-18 is capable of using external equipment to perform either fighter or attack missions. The capabilities of the F/A-18 weapon system can be upgraded to accommodate and incorporate new or enhanced weapons as well as advances in technology to respond effectively to emerging future threats. Continued development capability is required to successfully optimize new F/A-18 weapon system capabilities in the Fleet and to ensure interoperability in a network centric environment. Additionally, continued improvements in reliability and maintainability are necessary to ensure maximum benefit is achieved through reduced cost of ownership and to provide enhanced availability.

F/A-18 Improvements: The F/A-18 is a multi-mission strike fighter aircraft that is used in both fighter and attack roles through selected use of external equipment (fuel tanks, targeting/navigation, Forward Looking Infrared (FLIR) pods, and various bomb/missile launching racks). Additional capabilities are required for interoperability in a network-centric operational environment. In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being upgraded to incorporate new/enhanced weapons systems and avionics including the Joint Helmet Mounted Cueing System (JHMCS), Advanced Targeting Forward Looking Infrared (ATFLIR), development and integration of the Multifunctional Information Distributions System (MIDS), conversion of the System Configuration Set (SCS) to a Higher Order Language (HOL), development of the F/A-18 E/F Advanced Crew Station (ACS), and upgrade of the existing Global Positioning System/Inertial Navigation System in order to meet precision strike/precision approach requirements. Continued hardware/software development is required to successfully optimize fleet F/A-18 weapons systems for interoperability in a network centric operational environment, to include: increased software capabilities, potential new hardware capabilities, upgrading existing hardware, and network centric warfare upgrades. Additionally, a continuing capability is needed to perform technical evaluations/investigative flight testing, provide software based on reported fleet problems.

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 29)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE:
EXHIBIT N-2, NOTAL Budget item sustification	February 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204136N F/A-18 SQUADRONS
F/A-18 Radar Upgrade: The F/A-18 Radar Upgrade, Active Electronically Scanned Array (AESA) developme F/A-18 Type/Model/Series radar. The AESA corrects operational test deficiencies noted in the AN/APG-73. It Target Location Error (TLE), and improved spotlight map resolution. In addition, it provides for greater lethality planned air-to-air (A/A) and air-to-ground (A/G) weapons significantly increases A/A and A/G detection and tra standoff jamming capabilities, while its greater range allows for reduced detection by enemy radar. The AESA support costs can be realized through a five fold increase in reliability over the AN/APG-73 as well as incorpors savings can be realized by avoiding parts obsolescence redesign costs that will be experienced on the AN/APG-744 Engine Durability Improvements: The FY03 Congressional add supports testing of engine component improved component efficiency of the EDE could be used to increase life or performance of the F414 engine.	t provides for multi-target tracking, Synthetic Aperture Radar (SAR) imagery, SAR than previous F/A-18 radars by allowing for full tactical support of existing and cking ranges. The AESA provides greater survivability through self-protection and is also more affordable than previous radars. Significant savings in operating and ating open architecture and Higher Order Language software. Additionally, G-65 and AN/APG-73.
AN/APG-73 Radar Upgrade: The AN/APG-73 radar will alleviate Electronic CounterCountermeasures (ECCM hardware and software upgrades which increase ECCM effectiveness and provide growth potential for advance dynamic range, processing speed and memory over the AN/APG-65.	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMI	ENT NUMBER AND	NAME		PROJECT NUMBE	ER AND NAME		
RDT&E, N / BA-7	0204136N/F/A-18	SQUADRONS			E1662 F/A-18 Imp	rovements		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		88.742	64.504	44.296	14.603	11.320	10.908	11.088
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18 is a multi-mission strike fighter aircraft that is used in both fighter and attack roles through selected use of external equipment (fuel tanks, targeting/navigation, Forward Looking Infrared (FLIR) pods, and various bomb/missile launching racks). Additional capabilities are required for interoperability in a network-centric operational environment. In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being upgraded to incorporate new/enhanced weapons systems and avionics including the Joint Helmet Mounted Cueing System (JHMCS), Advanced Targeting Forward Looking Infrared (ATFLIR), development and integration of the Multifunctional Information Distributions System (MIDS), conversion of the System Configuration Set (SCS) to a Higher Order Language (HOL), development of the F/A-18 E/F Advanced Crew Station (ACS), and upgrade of the existing Global Positioning System/Inertial Navigation System in order to meet precision strike/precision approach requirements. Continued hardware/software development is required to successfully optimize fleet F/A-18 weapons systems for interoperability in a network centric operational environment, to include: increased software capabilities, potential new hardware capabilities, upgrading existing hardware, and network centric warfare upgrades. Additionally, a continuing capability is needed to perform technical evaluations/investigative flight testing, provide software based on reported fleet problems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N / BA-7	0204136N/F/A-18 SQUADRONS	E1662 F/A-18 Improvement	ts	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.884	0.982	0.800
RDT&E Articles Quantity			

Continue to conduct engineering analysis and develop improvements to existing systems and subsystems for deficiencies identified during development of the aircraft. Provide technical support for the integration of new weapons, systems, and Network Centric Warfare capability.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	16.926	10.625	12.855
RDT&E Articles Quantity			

Continue to develop and integrate enhancements to the effectiveness, interoperability, and safety of the F/A-18 Weapon System (airframe, avionics, and weapons) and subsystems to include MIDS, and ANAV.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	23.171	20.568	12.691
RDT&E Articles Quantity			

Continue and complete development of JHMCS Front Seat and Operational Test. Start and complete development of Aft Seat capability.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	ation			DATE:	
				Febr	uary 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	IBER AND NAME	PROJECT NUMBER AND N	IAME	-
T&E, N /BA-7	0204136N/F/A-18 SQUADR	ONS	E1662 F/A-18 Improvemen	ts	
B. Accomplishments/Planned Program					
		FY 03	FY 04	FY 05	7
Accomplishments/Effort/Subtotal Cost		12.846			
RDT&E Articles Quantity					1
	e developmental testing and OPEVAI				
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost			FY 04 17.301	FY 05 14.428	
Accomplishments/Effort/Subtotal Cost		FY 03]
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Complete software conversion from Assembl (V/V), OT, and OT&E.		FY 03 22.834	17.301	14.428	dation/Verification
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Complete software conversion from Assembl (V/V), OT, and OT&E.		FY 03 22.834	17.301	14.428	dation/Verification
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Complete software conversion from Assembl		FY 03 22.834 e (HOL) to include Softw	17.301 are Configuration Set H1E and H	14.428 2E. Start and complete Valid	dation/Verification

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
						February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER ANI	D NAME		PROJECT NUMBER	AND NAME	
RDT&E, N / BA-7	0204136N/F/A-18 SQUADRONS		l	E1662 F/A-18 Improv	rements	
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding: Previous President's Budget: Current BES/President's Budget Total Adjustments		FY 2003 95.079 88.742 -6.337	FY 2004 69.032 64.504 -4.528	FY 2005 44.463 44.296 -0.167		
Total Adjustifients		-0.557	-4.320	-0.107		
Summary of Adjustments Congressional program reducti Congressional undistributed red Congressional rescissions			-0.768			
SBIR/STTR Transfer Economic Assumptions		-2.305		-0.106		
Reprogrammings		-4.032		-0.106		
Reprioritization			-3.760	-0.061		
Congressional increases						
Subtotal		-6.337	-4.528	-0.167		
(U) Schedule:						
ACS DT 11A runs through the start of TEC	of 19C FOT&E, which allowed time for validat HEVAL. erage off of 19C and H3E FOT&E respectfully		on discrepand	cies (VCD).		
(U) Technical:						

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:		
								Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT NUME	BER AND NAM	E	PROJECT NUM	IBER AND NA	ME		
RDT&E, N / BA-7	0204136N/F/A-	18 SQUADRO	NS		E1662 F/A-18	Improvements			
(U) D. OTHER PROGRAM FUNDING SUMMARY:									
								To	Total
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost
APN-1 (E/F) Weapons System Cost	3196.934	3044.133	2985.762	2848.414	2351.712	2066.567	1753.698	3077.01	21324.23
Line Item 3 F/A-18E/F Hornet (MYP)									
APN-1 (G) Weapons System Cost			8.243	333.98	882.315	1292.063	1568.357	2467.353	6552.311
Line Item 2 EA-18G									
APN-5	385.732	361.044	412.495	394.319	504.613	451.616	468.834	1515.582	4494.235
Line Item 27 F-18 Series Modification	000.702	00.1011	1121100	00 110 10	00	1011010	100.001	.0.0.002	. 10 11200

Related RDT&E

- (U) P.E. 0207163N Advanced Medium Range Air-to-Air Missile (AMRAAM)
- (U) P.E. 064269N EA-18 G (FY05-09)
- (U) P.E. 0604270N Electronic Warfare Development (FY02-04)

(U) E. ACQUISITION STRATEGY:

The F/A-18 Improvements program consists of extensive development projects and integration of avionics systems onto the F/A-18E/F. The major programs within the F/A-18 Improvements project are:

- *ANAV. ANAV development is provided on a sole source cost plus fixed fee contract on an R&D Basic Ordering Agreement to Boeing. Procurement of production hardware will be made as CFE through the prime contractor.
- *ATFLIR. The ATFLIR development was a sole source cost plus incentive fee contract to Boeing which was completed in FY03. The procurement supplier is sole source to Boeing.
- * <u>Higher Order Language (HOL)</u>. The conversion of the System Configuration Set software to HOL will be accomplished by the F/A-18 Advanced Weapons Laboratory at China Lake as the designated Software Support Activity for the F/A-18. The design of the software will be accomplished by Boeing under sole source cost type contracts. The contract vehicle is a Technical Direction Letter contract at China Lake. As the Prime contractor for the aircraft, Boeing is the design agent for software of aircraft in production.
- * Advanced Crew Station. The design and development of the Advanced Crew Station modification is sole source to Boeing as the Prime aircraft contractor.
- * MIDS. An acquisition developmental effort supported by SPAWAR (PMW-159), MIDS is being developed by a consortium of international companies.
- * JHMCS. JHMCS development is via a sole source cost plus award fee Joint Air Force contract to Boeing.

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (page 1)										February 200)4	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	LEMENT			PROJECT NU	MBER AND N	AME				
RDT&E, N / BA-7		0204136N F/A	A-18 SQUADRO	ONS		E1662 F/A-18	Improvement	S				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development PIDS/DCS	SS/CPFF/FFP	MDA-ST LOUIS,MO	90.000								90.000	90.000
Primary Hardware Development ATFLIR	SS/CPIF/AF	MDA-ST LOUIS,MO	154.845	8.310	11/02						163.155	163.155
AWARD FEE ATFLIR			1.576								1.576	
Primary Hardware Development ANAV	SS/CPFF	MDA-ST LOUIS,MO		9.212	09/03	6.669	03/04	1.741	03/05	5.685	23.307	23.307
Primary Hardware Development ACS	SS/CPIF	MDA-ST LOUIS, MO	36.810	10.110	11/02	9.585	11/03	0.179	11/04		56.684	56.684
Primary Hardware Development HOL	SS/CPIF/TDL	NAWCWD-CHINA LAKE	117.446	6.289	11/02	1.669	11/03	2.016	11/04		127.420	127.420
Primary Hardware Development JHMCS	MIPR	WPAFB DAYTON, OHIO	16.560	20.638	02/03	19.419	02/04	11.743	02/05		68.360	
Primary Hardware Development MISC.	WX	OTHER FIELD ACTIVITIES	14.532	5.788	11/02	5.194	11/03	8.075	11/04		33.589	
Ancillary Hdw Develop ATFLIR	WX	NAWCAD-LAKEHURST NJ	9.201								9.201	
Subtotal Product Development			440.970	60.347		42.536		23.754		5.685	573.292	
	•		•	•				•			•	
Remarks:												
FY99 and prior year award fee earned is	74.7% (ATFLIR	2)										

	VARIOUS	33.092	4.049	11/02	4.214	11/03	3.135	11/04	2.054	48.344	
X N					7.217	11/03	3.133	11/04	3.854	48.344	
	NAWCWD-CHINA LAKE	106.067	9.602	12/02	7.689	12/03	9.430	12/04	19.862	152.650	
rious \	Various	2,567.069								2,567.069	
											1
		2,706.228	13.651		11.903		12.565		23.716	2,768.063	
irio	us '	us Various									

Remarks

Prior year costs (FY95 & prior) not broken out into separate categories.

CLASSIFICATION:

								DATE:				1
Exhibit R-3 Cost Analysis (pag	ie 2)									February 200	04	
APPROPRIATION/BUDGET ACTIV		PROGRAM EI	LEMENT			PROJECT NU	IMBER AND N	IAME				
RDT&E, N / BA-7		0204136N F/A	A-18 SQUADR	ONS		E1662 F/A-18	3 Improvement	is				
Cost Categories	Contract Method	Performing Activity &	Total PY s	FY 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	WX	NAWCAD, PAX RIVER, MD	47.969	7.094	11/02	4.312		6.669	11/04	12.341	78.385	
Operational Test & Evaluation	WX	OPTEVFOR, NORFOLK, VA	6.704	6.254	11/02	4.365	11/03				17.323	
Subtotal T&E			54.673	13.34	3	8.677		6.669		12.341	95.708	
ı												
Program Management Sup	VARIOUS	NAVAIR, PAX RIVER, MD	7.917	0.24	11/02	0.484	11/03	0.408	11/04	2.620	11.670	
Travel	WX	NAVAIR, PAX RIVER, MD	3.122	1.15	VAR	0.904	VAR	0.900	VAR	3.557	9.638	
Subtotal Management			11.039	1.39	6	1.388		1.308		6.177	21.308	
Remarks:	•				•			,				
Total Cost			3,212.910	88.742	2	64.504		44.296		47.919	3,458.371	
Remarks:												

CLASSIFICATION:

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EXHIBIT R4, Schedule																									DATE		Fe	ebrua	ry 20	04		
APPROPRIATION/BUDGET RDT&E, N / BA-7	ACTIVI	ITY											IUMBE quadr	R AND	NAMI	E	T					ECT N 32 F/A										
Fiscal Year		20	02			20	03			200	04			200	05			200	06			20	07			200	08			200	9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ANAV Acquisition Milestones						M/	S B									M/S	B1/LR	IP I		M/S	B2/LR	IP II		F	RP De	ec	IC	oc				
Box Dev Risk Reduction ANAV Box Competition Box Contract Award							^																									
Box Development Development								PDR (DR				M Deliv	\					FCA		PCA											
Aircraft Integration Aircraft Risk Reduction Integration BOA Aircraft Modifications Integration Test Tape					,	\ \ \ward		PDF		DR			Pax (. (2) P	ax															
H-4E										Req	Desi Defini			Des	Test ign			Dev	velopm	nent		F	OT&E	_								
Test & Evaluation Milestones Lab/King Air Box Test Development Test Operational Test														D ¹	Г-ША] I AII-TC	DT-IIB		DT-		ECHEV.	AL		DT-IIC	OPEV#	AL					
Production Milestones LRIP I FY 06 (Lot 30 A/C) LRIPII FY 07 FRP FY 08																	Lii	RIP I S	Start			Deliveri RIP II S	1)		Deliveri I FRP Sta)		Deliveri	es (54	1)
Aircraft Deliveries																										Lot	30			Lot	31	

R-1 SHOPPING LIST - Item No. 166

UNCLASSIFIED

Exhibit R-4, Schedule Profile (Exhibit R-4, page 10 of 29)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	IMBER AND N		<u> </u>
RDT&E, N / BA-7	0204136N F	F/A-18 Squa	drons		E1662 F/A-	18 Improvem	nents	
Schedule Profile for ANAV	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone B (MS B)		2Q						
Box Competition		1Q-2Q						
Box Development Contract Award		3Q						
Box Preliminary Design Review (PDR)		4Q						
Box Critical Design Review (CDR)			1Q					
Eng Dev Model (EDM) Radar Delivery - Lab				1Q				
Integration Contract Award		3Q						
System Preliminary Design Review (PDR)			1Q					
System Critical Design Review (CDR)			2Q					
Test Tape Development/Test			2Q-4Q	1Q-4Q				
H-4E SCS Development/Test			2Q-4Q	1Q-4Q	1Q-4Q	2Q-4Q		
Aircraft Modification				1Q-4Q	1Q			
Lab/King Air Flt Test				1Q-4Q				
Developmental Testing (DT-IIA)				1Q-4Q				
Operational Testing (OT-IIA)				4Q				
Start Low-Rate Initial Production I (LRIP I)					1Q			
DT-IIB				4Q	1Q-4Q			
OT-IIB					3Q			
Functional Configuration Audit (FCA)					3Q			
LRIP I Delivery						1Q-4Q		
LRIP II Start						1Q		
Physical Configuration Audit						1Q		
DT-IIC TECHEVAL					4Q	1Q		
OT-IIC OPEVAL						2Q-4Q		
LRIP II Delivery							1Q-4Q	
Full Rate Production (FRP) Decision							1Q	
IOC							4Q	
FRP Deliveries								1Q and out

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE F e	ebrua	ry 20	04				
APPROPRIATION/BUDGE									PRO					ER AN		1E								ER AN								
RDT&E, N /	BA-7	<u> </u>								0204	1136N	N F/A	-18 S	quadı	ons		I				E166	52 F/A	4-18 I	mpro	veme T	nts						
Fiscal Year		20	002			2	003			20	004			20	005			20	006			20	007			20	800			200	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ATFLIR Acquisition Milestones			Firs	t Deplo	by		MS		FRI					FCA																		
EMD Phase																																
Test & Evaluation Milestones				TECH	EVAL																											
Development Test	DT-IIC			T-IIE		Dī	-IIIA																									
Operational Test		ОТ-	IIB				EVAL																									
Production Milestones																																
KPPU FY 01				<u> </u>																												
FDU FY 01					<u> </u>																											
LRIP I FY 01							I	1																								
LRIPII FY 02			LRIP I	Start				FRP St	art	<u> </u>			\vdash																			
FRP FY 03			₩	\		↓			↓ ↓							1	1	l		1	1		1		1	1	1	1				
Deliveries			KPPU	(4) FDU	(8)	LRIP I	(21)		LRIP	(28)				FRP ((513)																	

 $^{^{\}star}$ Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	EMENT			PROJECT NU	MBER AND N		
RDT&E, N / BA-7		A-18 SQUADR	ONS			3 Improvements		
Schedule Profile for ATFLIR	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Developmental Testing (DT-IIC)	1Q-2Q							
Developmental Testing (DT-IID) (TECHEVAL)	4Q	1Q						
Developmental Testing (DT-IIE)	3Q-4Q							
Developmental Testing (DT-IIIA)		1Q-4Q						
Operational testing(OT-IIB)	2Q-3Q							
Functional Configuration Audit (FCA)				1Q				
Low-Rate Initial Production I Delivery		1Q-4Q	1Q					
Operational Evaluation (OT-IIC) (OPEVAL)		2Q-3Q						
Low-Rate Initial Production II Delivery			1Q-4Q	1Q				
IOC		4Q						
Full Rate Production (FRP) Decision			1Q					
Full Rate Production Start		4Q						
First Deployment	4Q							
,								
					1			

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE F (: ebrua	ry 20	04				
APPROPRIATION/BUDGE														R AND	NAM	E									D NAN	1E						
RDT&E, N /	BA-	7			I				02041	36N F	F/A-18	Squad	drons				I				E1662	2 F/A-1	8 Impr	ovem	ents							
Fiscal Year		20	002			20	03			20	04			20	05			20	06			200	07			20	08			200	9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ACS Acquisition Milestones								FRF	DVM	C 										IOC												
Prototype Phase																																
System Development	CDR																															
EDM Delivery					DVM	C, 8x1	0, HC,	AMC	Т2																							
Software ACS/AESA Test Readiness R ACS/AESA BRR H3E TRR	eview			ACS/	AESA A	TTR	ACS/A	ESA B H3E R	RR Release	to Nav	у																					
Test & Evaluation Milestones									ı	DT-IIA					TE	CHE\	/AL															1
Development Test Operational Test																			FOT&													ĺ
Production Milestones						I	nitial D	elivery	in Lot	26(E/I	F)																					
I																																ı

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
							February 20	004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&E, N / BA-7	0204136N F/A	A-18 Squadron	S		E1662 F/A-18	Improvements	3	
Schedule Profile for ACS	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006			
Program Start								
Critical Design Review(CDR)	1Q							
Software Milestones:								
ACS/AESA Test Readiness Review (TRR)	4Q							
H3E Test readiness review (TRR)		4Q						
ACS/AESA Build Readiness Review (BRR)		3Q						
First flight Developmental Testing (DT) for ACS Aircraft		1Q-4Q	1Q-4Q	1Q-3Q				
FOT&E ACS					2Q-4Q			
Techeval				3Q-4Q	1Q-2Q			
IOC					4Q			
Initial Delivery Lot 26		4Q	1Q					
FRP DVMC			1Q					

CLASSIFICATION:

EXHIBIT R4, Schedul	e Profile																								DATE F (: ebrua	ry 20	04				
APPROPRIATION/BUDGE	T ACTIVI	TY							PRO	GRAM	ELEM	ENT N	IUMBE	R ANI	NAM C	ΙE					PROJ	IECT N	NUMBE	R AN								
RDT&E, N /	BA-7	,							0204	136N	F/A-18	Squa	drons								E1662	2 F/A-1	l8 Imp	rovem	ents							
Fiscal Year		20	002			20	03			20	004			20	05			20	006			20	07			20	08			200)9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
HOL Development Milestones						OTRE	H1E R May	03			2E Mar 0	4																				
H2E Requirements Definition	H2	2E																														
H2E Design/ Development		[H2 D	E &D																											
Verification/Validation								H2 V8																								
Test & Evaluation Milestones			H1E	DT		H2E C	Т			Ц																						
Development Test		L								Τ_																						
Operational Test							H11	FOT8	kE		12E FO	T&E																				
Fleet Release								ŀ	I1E F	leet Re	lease	H	ZE Flee	t Rele	ase																	

CLASSIFICATION:

Exhibit R-4a, Schedule Detail	DATE:							
	February 2004							
APPROPRIATION/BUDGET ACTIVITY	JMBER AND NAME							
RDT&E, N / BA-7	0204136N F/A	A-18 Squadron	S	E1662 F/A-18	Improvements	•		
Schedule Profile for HOL	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
H1E Development Test (DT)	1Q-4Q	1Q-2Q						
Operational Test Readiness Review (OTRR)		3Q						
Follow On Test and Evaluation (FOT&E)		3Q-4Q	1Q					
Fleet Release			2Q					
H2E Requirements Definition	1Q-2Q							
Design/Development Phase	2Q-4Q	1Q-3Q						
Development Test (DT)	2Q-4Q	1Q-4Q	1Q-2Q					
Validation & Verification (V&V)		3Q-4Q	1Q-2Q					
Operational Test Readiness Review (OTRR)			2Q					
Follow On Test and Evaluation (FOT&E)			2Q-4Q					
Fleet Release				1Q				

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE F e	ebrua	ry 20	04				
APPROPRIATION/BUDGET																	PROJECT NUMBER AND NAME E1662 F/A-18 Improvements															
RDT&E, N / BA-7							02041	36N F	-/A-18	Squad	irons								E1662	2 F/A-1	8 Impr	ovem	ents									
Fiscal Year	2002 2003 Fiscal Year			ı	2004 2005						2006				2007				2008				2009									
	1	2	3	4	4 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JHMCS Acquisition Milestones						Deplo	ment		ľ	MS III																						
Prototype Phase																																
JHMCS Front Seat Development	PDR		CDR																													
JHMCS Aft Seat Development									PDR		CDR																					
Software OFP-19C Delivery OFP-H3E Delivery					SCRB △ □	Desig	Devel	op sign/D	TRR	DT	TRI		Val _{/F}	OT&E	De ^ DT	livery _		TRR ∆	T&E	De	livery											
Test & Evaluation Milestones Development Test				/	<u> </u>				D	/F Aft	DT			O OTR	\	Aft D	Т	F C	TRR													
Operational Test	OT-II] B OPE	VAL								F	OT&E	D AF	Seat					FOT	&E F.	AFT S	eat										
Production Deliveries	LRIP	II Star			LRIP II	l \$tart																										
LRIP III										LF	RIP IV	Start																				
LRIP IV FRP											RP																					

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:			
	February 2004								
APPROPRIATION/BUDGET ACTIVITY	PROJECT NU	CT NUMBER AND NAME							
RDT&E, N /BA-7	0204136N F/A	A-18 Squadron	s	E1662 F/A-18	Improvements				
Schedule Profile for JHMCS	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Preliminary Design Review (PDR) Front Seat	1Q								
Critical Design Review (CDR) Front Seat	3Q								
Preliminary Design Review (PDR) AFT Seat			1Q						
Critical Design Review (CDR) AFT Seat			3Q						
Test Readiness Review (TRR) Aft Seat			1Q,3Q						
Developmental Testing Aft Seat	4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q				
Operational Testing (OT-IIB) Front Seat	1Q-2Q								
Development Test (DT) D AFT seat			3Q-4Q	1Q-2Q					
Development Test (DT) F AFT seat				3Q-4Q	1Q-2Q				
Software Delivery OFP-19C				4Q					
Follow On Test Evaluation (D Aft Seat)				2Q-3Q					
Follow On Test Evaluation (F Aft Seat)					3Q-4Q				
Software Delivery OFP-H3E						1Q			
LRIPII	1Q								
LRIPIII	4Q								
LRIPIV			2Q						
Full Rate Production Start			2Q						
First Deployment		1Q							

UNCLASSIFIED CLASSIFICATION: EXHIBIT R-4a, Schedule Profile DATE: February 2004 PROJECT NUMBER AND NAME APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT RDT&E/BA-7 0204136N F/A-18 Squadrons E1662 F/A-18 Improvements 2002 2003 2004 2005 2006 2007 2008 2009 Fiscal Year 2 3 2 3 2 2 3 3 3 2 3 FRP MIDS LVT F/A-18 Milestones MIDS F/A-18 Production Deliveries F/A-18C/D MIDS Integration DT-IIA-7 DT-IIA-10 DT-IIIA-1 C/D DT&E OT-IIA-1 DT Assist DT Assist 2 OT-IIA-4 VCD C/D OT&E F/A-18 E/F MIDS Integration DT-IIIA-1 DT-IA-9 DT-IA-11 E/F DT&E DT Assist DT Assist 2 VCD OT-IIA-1 OT-IIA-5 VCD E/F OT&E F/A-18 MC SW Development 17C SCS (MIDS C/DIOC OPEVAL Tape) 19C OT 19C V&V 19C SCS H1 SCS V&V& H1 OT (High Order Language-HOL) REQUIREMENTS DEVELOPMENT DEŞIĞN 21C SCS (SIAP Block 0) [C/D] ΦT&E REQUIREMENTS DESIGN DEVELOPMENT H4E SCS (SIAP Block 0) [E/F] SIAP SOW Tasks SIAP SOW Tasks

R-1 SHOPPING LIST - Item N0. 166

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Exhibit R-4a, Schedule Detail (Exhibit R-4a, page 2 of 2)

Exhibit R-4a, Schedule Detail	Date: February 2004								
APPROPRIATION/BUDGET ACTIVITY RDT&E/BA-7		M ELEMEN N F/A-18 Sq	NUMBER AND NAME -18 Improvements						
MIDS Schedule Profile	FY2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
MIDS LVT Development									
Full Rate Production		4Q							
MIDS F/A-18 Production Deliveries	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
F/A-18C/D MIDS Integration									
C/D DT&E	1Q-4Q	3Q-4Q	1Q-2Q						
C/D OT&E	1Q, 3Q	1Q-2Q	2Q-3Q	3Q-4Q					
F/A-18 E/F MIDS Integration									
E/F DT&E	1Q-4Q	3Q-4Q	1Q-4Q	1Q-2Q					
E/F OT&E	1Q, 3Q	1Q-2Q,4Q	2Q-3Q	3Q-4Q					
F/A-18 MC SW Development									
17C SCS (MIDS C/D IOC Tape)	1Q-4Q	1Q-2Q							
19C SCS	1Q-4Q	1Q-4Q	1Q-2Q						
18E (MIDS E/F IOC Tape)	1Q-4Q	1Q-2Q							
H1 SCS (High Order Language-HOL)	1Q-4Q	2Q-3Q							
21C SCS (SIAP Block 0) [C/D]		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
H4E SCS (SIAP Block 0) [E/F]	4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
SIAP SOW Tasks	2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	

R-1 SHOPPING LIST - Item No. 166 Page 21 of 30

Classification:

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CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AN	D NAME		PROJECT NUMBE		•	
RDT&E, N / BA-7	0204136N/F/A-18	04136N/F/A-18 SQUADRONS				ADAR Upgrade	1	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
E2065/RADAR UPGRADE		104.691	108.239	90.284	68.395	6.629	3.237	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The F/A-18 Radar Upgrade, Active Electronically Scanned Array (AESA) development program began in FY 1999. It is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series radar. The AESA corrects operational test deficiencies noted in the AN/APG-73. It provides for multi-target tracking, SAR imagery, SAR TLE, and improved spotlight map resolution. In addition, it provides for greater lethality than previous F/A-18 radars by allowing for full tactical support of existing and planned air-to-air (A/A) and air-to-ground (A/G) weapons, significantly increasing A/A and A/G detection and tracking ranges. The AESA provides greater survivability through self-protection and standoff jamming capabilities, while its greater range allows for reduced detection by enemy radar. The AESA is also more affordable than previous radars. Significant savings in operation and support costs can be realized through a five fold increase in reliability over the AN/APG-73 as well as incorporating open architecture and Higher Order Language software. Additionally, savings can be realized by avoiding parts obsolescence redesign costs that will be experienced on the AN/APG-65 and AN/APG-73.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	on		DATE:	ary 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N		ar y 2004
T&E, N / BA-7	0204136N F/A-18 SQUADRONS	E2065 F/A-18 RADAR Up		
Accomplishments/Planned Program	020 HOSTIM TO DECKETO	122000177110107070100		
toomphomionica i rogium	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	89.732	74.421	56.428	
RDT&E Articles Quantity				
Continue EMD effort and radar cross-section as	sessments. Start Anti-Tamper Devlopment in FY05.			
				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	14.809	29.968	24.706	
RDT&E Articles Quantity				
Continue software development, DT, and system	ms integration efforts.			
				<u>'</u>
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.150	3.850	9.150	
RDT&E Articles Quantity				
AESA OT&E.	<u> </u>		<u> </u>	
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

CLASSIFICATION:

(OSIP XX-07)

APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME D204136N F/A-18 SQUADRONS PROJECT NUMBER AND NAME E2065 F/A-18 RADAR Upgrade C. PROGRAM CHANGE SUMMARY: Funding: FY 2003 FY 2004 FY 2005 Previous President's Budget: 104.481 110.015 78.578 Current BES/President's Budget: 104.481 110.015 78.578 Current BES/President's Budget: 104.481 110.015 78.578 Current BES/President's Budget: 104.681 108.239 90.284 Total Adjustments 0.210 -1.776 11.706 Summary of Adjustments Congressional program reductions Congressional undistributed reductions Congressional rescissions SBIR/STIR Transfer 1.1.947 Economic Assumptions 2.157 Reprioritization 2.157 Reprioritization 0.210 -1.776 11.706 Schedule: Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Tecnnica: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost	RDT&E Project Justification						I	DATE:		
## Compressional program reductions Congressional program reductions Congressional program reductions Congressional program reductions Congressional undistributed reductions Congressional program re									F	ebruary 2004
C. PROGRAM CHANGE SUMMARY: Funding:	BUDGET ACTIVITY	PROGRAM ELEM	IENT NUMBEF	R AND NAME		PROJECT NUM	IBER AND NA	ME		
Funding:	4-7	0204136N F/A-18	SQUADRONS	3		E2065 F/A-18	RADAR Upg	grade		
Previous President's Budget	I CHANGE SUMMARY:									
104.691 108.239 90.284 7 total Adjustments 104.691 108.239 90.284 7 total Adjustments 10.210 -1.776 11.706	:			FY 2003	FY 2004	FY 2005				
Total Adjustments Summary of Adjustments Congressional program reductions Congressional undistributed reductions Congressional resdissions SBIR/STTR Transfer Economic Assumptions Reprogrammings 2.157 Reprioritization Congressional increases Subtotal Schedule: Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Tecnnica: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: To Total Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2008 FY 2008 Complete Cost	President's Budget:			104.481	110.015	78.578				
Summary of Adjustments Congressional program reductions Congressional undistributed reductions Congressional rescissions SBIR/STTR Transfer SIBR/STTR Transfer Economic Assumptions Reprogrammings 2.157 Reprioritization Congressional increases Subtotal Schedule: Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Tecnnica: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: To Total Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost	BES/President's Budget		_	104.691	108.239					
Congressional program reductions Congressional undistributed reductions Congressional rescissions SBIR/STTR Transfer SIR/STTR Transfer SIR	justments			0.210	-1.776	11.706				
Congressional undistributed reductions Congressional rescissions SBIR/STTR Transfer Economic Assumptions Reprogrammings Reprioritization Congressional increases Subtotal Schedule: Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Tecnnicar: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost										
Congressional rescissions SBIR/STTR Transfer Economic Assumptions Reprogrammings 2.157 Reprioritization Congressional increases Subtotal Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Tecnnica: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: To Total Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost										
SBIRSTTR Transfer Economic Assumptions Reprogrammings 2.157 Reprioritization Congressional increases Subtotal Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Tecnnica: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: Inceltem No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost		i			-1.226					
Economic Assumptions Reprogrammings Reprogrammings Reprointization Congressional increases Subtotal Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Tecnnica: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: Incel Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost				4.047						
Reprogrammings Reprodritization Reprodritization Congressional increases Subtotal Schedule: Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Tecnnical: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost				-1.947		0.241				
Reprioritization Congressional increases Subtotal Schedule: Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Tecnnical: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: To Total Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost	·			2 157		-0.241				
Congressional increases Subtotal O.210 -1.776 11.706 Schedule: Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Technical: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: To Total Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost				2.107	-0.550	11 947				
Schedule: Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Tecnnical: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: To Total Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost	•				0.000	11.017				
Anti-Tamper Development continues through FY08. OT-C1 Phase II was incorporated in FY05 for OPEVAL risk reductin and will be completed in a DT assist environment. Tecnnicai: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: To Total Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost			_	0.210	-1.776	11.706				
Tecnnicai: Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: To Total Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost	:									
Incorporating Anti Tamper development into AESA starting in FY05. D. OTHER PROGRAM FUNDING SUMMARY: To Total Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost	Famper Development continues through F	/08. OT-C1 Phase I	II was incorpor	ated in FY05 fo	r OPEVAL ris	k reductin and v	vill be complete	ed in a DT ass	ist environment.	
D. OTHER PROGRAM FUNDING SUMMARY: To Total Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2009 Complete Cost	ai:									
To Total Line Item No. & Name FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Complete Cost	rporating Anti Tamper development into Al	SA starting in FY05	i.							
<u>Line Item No. & Name</u> <u>FY 2003</u> <u>FY 2004</u> <u>FY 2005</u> <u>FY 2006</u> <u>FY 2007</u> <u>FY 2008</u> <u>FY 2009</u> <u>Complete</u> <u>Cost</u>	ROGRAM FUNDING SUMMARY:									
(1) Line Item 3 F/A-18E/F HORNET (MYP) APN-1 78.158 85.967 112.830 169.350 179.660 186.360 183.230 365.780 1361.33	No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
		78.158	85.967	112.830	169.350	179.660	186.360	183.230	365.780	1361.335 319.936

R-1 SHOPPING LIST - Item No. 166

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Just	fication	DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204136N F/A-18 SQUADRONS	E2065 F/A-18 RADAR Upgrade
	·	•

E. ACQUISITION STRATEGY:

The AESA program employs a two-phase approach with sole source contracts to Boeing, the airframe prime manufacturer. Phase I is a moderate risk reduction phase conducted in FY 1999 and FY 2000. During this phase, Boeing conducted competitive source selection at the radar system subcontract level. A BOA order for RFP development and subcontractor selection was made to conduct this effort. It includes an "845" agreement for prototype development, which includes commercial development/amortization provisions. Conducting the competition early in the program allowed for focused risk reduction and contractor investment. Phase II consisted of a typical System Demonstration program and development contract. The program transitioned to Phase II with a successful Milestone II Decision in FY 2001. When the program entered production in FY03, the "845" agreement allowed the contractor to amortize unreimbursed development costs into the production unit cost. This strategy fully utilizes acquisition reform initiatives such as: early partnering with industry; alpha contracting; leveraging industry investment; optimizing use of Commercial Off-the Shelf software and Non-Developmental Item; Cost as an Independent Variable; and Electronic Data Deliverables.

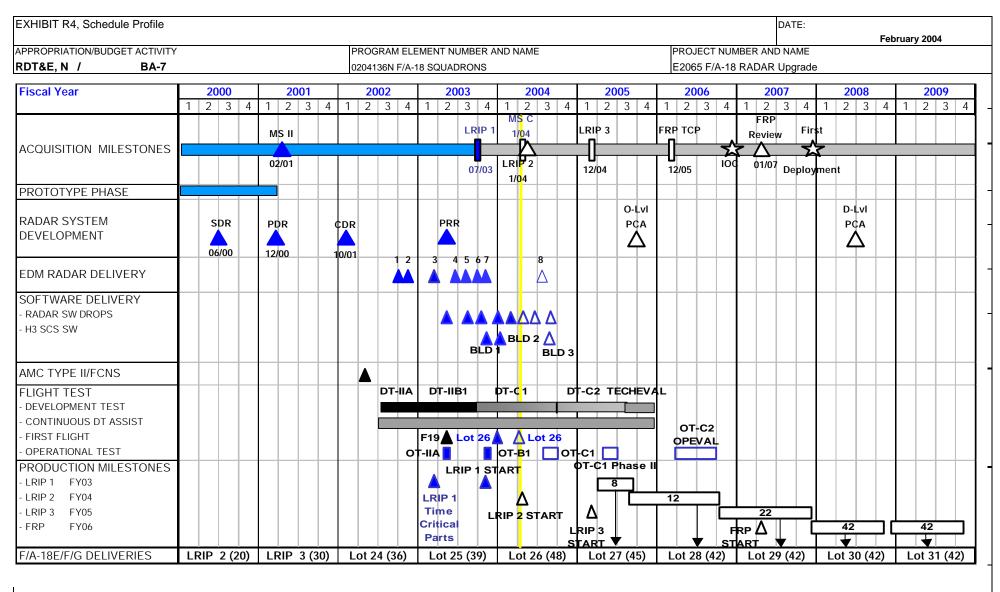
CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (page	e 1)									February 200	14	
APPROPRIATION/BUDGET ACTIVI	TY	PROGR	RAM ELEMENT			PROJECT NU						
RDT&E, N / BA-7			6N F/A-18 SQUADR	ONS		E2065 F/A-1		lpgrade				
Cost Categories		Performing	Total		FY 03		FY 04		FY 05		_	
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05 Cost	Award		Total	Target Value of Contract
Diameter Development (EM	& Type	Location	Cost	Cost	Date	Cost	Date	+	Date	•		
Primary Hardware Development (EM			196.03		10/02	74.197	10/03	56.213	10/04	64.188	480.088	
Primary Hardware Development (pre-			4.90								4.900	
GFE	SS	MDA - St Louis, MO	3.51	7							3.517	3.517
				-								
Subtotal Product Development			204.44	89.459		74.197	,	56.213		64.188	488.505	
Software Development	WX	NAWCWD China Lake,	CA 4.59	8.428	10/02	14.072	10/03	11.689	10/04		38.779	
Integrated Logistics Support	WX	NADEP North Island, CA	0.32	0.050	10/02						0.371	
Integrated Logistic Support	WX	NAWCAD Lakehurst, NJ	0.64	7 0.158	10/02	0.164	11/03	0.175	10/04	0.182	1.326	
Subtotal Support			5.55	8.636		14.236		11.864		0.182	40.476	
Remarks:												
			R-1 SHO	PPING LIST .	. Itam No. 1	66						

CLASSIFICATION:

										DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)											February 200	04	
APPROPRIATION/BUDGET ACTIVI		PROGRAM E						PROJECT NU						
RDT&E, N / BA-7		0204136N F/A		JADRO	DNS			E2065 F/A-18						
Cost Categories	Contract	Performing	Total				FY 03		FY 04		FY 05			
	Method	Activity & Location	PY s Cost		FY 03 Cost		Award Date		Award Date		Award Date	Cost to	Total Cost	Target Value of Contract
Developmental Test & Evaluation	& Type WX	NAWCAD Pax River, MD		5.672		.767	10/02	1.822	10/03	1.327	10/04	Complete	10.588	
Operational Test & Evaluation	WX	OPTEVFOR, Norfolk, VA		3.012		.150	10/02	3.850	10/03	9.150	10/04	13.851	27.001	
Developmental Test & Evaluation	WX	NAWCWD China Lake, CA				.614	10/02	14.074	10/03	11.690	10/04	10.001	30.378	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal T&E				5.672	(6.531		19.746		22.167		13.851	67.967	
Program Management Support	Various	NAVAIR Pax River, MD		1.652									1.652	
		,											0.000	
Travel	WX	NAVAIR Pax River, MD		0.295	(0.065	10/02	0.060	10/03	0.040	10/04	0.040	0.500	
													0.000	
													0.000	
													0.000	
Subtotal Management				1.947	(0.065		0.060		0.040		0.040	2.152	
Remarks:														
Total Cost			2	17.625	10-	4.691		108.239		90.284		78.261	599.100	
Remarks:														

CLASSIFICATION:



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
					_	February 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	PROGRAM ELEMENT PROJECT N						
RDT&BA-7	0204136N F/A	-18 SQUADRO	ONS		E2065 F/A-1	8 RADAR Up	grade	
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Critical Design Review (CDR)	1Q							
Developmental Testing (DT-IIA)	3Q-4Q							
Operational Testing (OT-IIA)		2Q						
Start Low-Rate Initial Production I (LRIP I)		4Q						
Developmental Testing (DT-IIB1)		1Q-3Q						
Developmental Testing (DT-C1)		4Q	1Q-3Q					
Developmental Testing (DT-C2)			4Q	1Q-3Q				
Milestone C (MS C)			2Q					
Start Low-Rate Initial Production II			2Q					
Low-Rate Initial Production I Delivery				2Q-3Q				
Technical Evaluation (TECHEVAL)				3Q-4Q				
Operational Evaluation (OT-IIC) (OPEVAL)					2Q-3Q			
Low-Rate Initial Production II Delivery				3Q-4Q	1Q-3Q			
IOC					4Q			
Full Rate Production (FRP) Decision						2Q		
Full Rate Production Start						2Q		
First Deployment						4Q		

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
						Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	CLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA-7			0204152N, E-2 Sq	uadrons		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	18.878	19.331	6.055	2.155	1.579	1.586	1.605
0463 - (E-2C Improvements)	8.502	8.749	6.055	2.155	1.579	1.586	1.605
2321 - (E-2 Radar Modernization)	10.376						
9417 - (E-2C Program Support Activity)*		0.989					
9418 - (E-2C Program Support Actvity)*		3.461					
9419 - (Non-Cooperative Combat Identification)*		1.682					
9420 - (PMRF Net-Centric Test Bed/Adv. Haw.)*		4.450					

^{*} The FY 2004 budget reflects the following Congressional adds: \$1.0M for E-2C Program Support Activity (PSA) which has been revised by \$.011 for Congressional Undistributed Adjustments; \$3.5M for E-2C PSA (SBIR Phase III) which has been revised by \$.039 for Congressional Undistributed Adjustments; \$1.7M for Non-Cooperative Combat Identification Capability which has been revised by \$.018 for Congressional Undistributed Adjustments; and \$4.5M for PMRF Net-Centric Test Bed/AHE Testing which has been revised by \$.050 for Congressional Undistributed Adjustments.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

E-2C Improvements provides pre-planned product improvements for the evolution of E-2C airborne warning system capabilities in support of naval warfare command and control requirements. It has previously funded developments for the modification replacement of selected weapon replaceable assemblies of current installed subsystems. This has resulted in a new capability configuration referred to as Group II aircraft. The program has developed a Mission Computer Upgrade (MCU), applying on-going developments in data processing and target detection, which will relieve current bottlenecks in signal and data processing. The MCU will permit incorporation of additional functional capabilities to satisfy evolving operational requirements, e.g., Cooperative Engagement Capability (CEC), Satellite Communications (SATCOMS), and permits the evolutionary growth of a Combat Identification and Theater Air and Missile Defense (TAMD) Capability.

FY2003-2009: Funding provides for evaluation of technology for new emergent systems and subsystems. This initiative allows for data collection and the evaluation of new technologies in the context of emerging missions and requirements including Theater Air and Missile Defense, Ballistic Missile Defense, littoral warfare, combat identification including specific emitter identification, multi-source integration, Airborne Battlefield Command and Control (ABC2), and Single Integrated Air Picture (SIAP) as well as parts and system obsolescence. Emphasis will be upon the following areas: participation in exercises to assess capabilities against emerging threats; identify deficiencies, identification of candidate solutions; and ground/airborne demonstrations of the identified technologies.

R-1 SHOPPING LIST - Item No. 167

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 13)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0204152N, E-2 SQ	UADRONS			0463, E-2C IMPRO	OVEMENTS		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		8.502	19.331 *	6.055	2.155	1.579	1.586	1.605
RDT&E Articles Qty						_		

^{*} The FY 2004 budget reflects the following Congressional adds: \$1.0M for E-2C Program Support Activity (PSA) which has been revised by \$.011 for Congressional Undistributed Adjustments; \$3.5M for E-2C PSA (SBIR Phase III) which has been revised by \$.039 for Congressional Undistributed Adjustments; \$1.7M for Non-Cooperative Combat Identification Capability which has been revised by \$.018 for Congressional Undistributed Adjustments; and \$4.5M for PMRF Net-Centric Test Bed/AHE Testing which has been revised by \$.050 for Congressional Undistributed Adjustments.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

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Funding provides for evaluation of technology for new emergent systems and subsystems. This initiative allows for data collection and the evaluation of new technologies in the context of emerging missions and requirements including Theater Air and Missile Defense, Ballistic Missile Defense, littoral warfare, combat identification including specific emitter identification, multi-source integration, Airborne Battlefield Command and Control (ABC2), and Single Integrated Air Picture (SIAP) as well as parts and system obsolescence. Emphasis will be upon the following areas: participation in exercises to assess capabilities against emerging threats; identify deficiencies, identification of candidate solutions; and ground/airborne demonstrations of the identified technologies.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	tion		DATE: February 2004	1
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NA	ME PROJECT NUMBE		<u> </u>
RDT&E, N / BA-7	0204152N, E-2 SQUADRONS	0463, E-2C IMPRO	/EMENTS	
B. Accomplishments/Planned Program		,		
2. / tooomphomiomo/ talmou / rogram				
	F	′ 03 FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
	F	′ 03 FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	2.	380 2.300		
RDT&E Articles Quantity				
Multi Occurs Internation (MOI) Discos I				
Multi-Source Integration (MSI) Phase I	ction with CEC follow-on Test and Evaluation (FC	T9 E) for E 2C		
Fund MSI Phase I productionization and final		1&E) 101 E-2C.		
Fund MSI Fhase i productionization and imai	test and evaluation for heiding in the E-2C.			
	F	′ 03 FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	2.	326		
RDT&E Articles Quantity				
Theater Air and Missile Defense (TAMD) Req	uiromonte			
	pport new architectures. Supported organic senso	or/resource management		
Conducted aviornes system trade study to su	pport new architectures. Supported organic serior	management.		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N / BA-7	0204152N, E-2 SQUADRONS	0463, E-2C IMPROVEMENT	ΓS	

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.501	1.100	0.950
RDT&E Articles Quantity			

Multi-Source Integration (MSI) Phase II

Developed software applications to facilitate incorporation of new technologies such as MSI in existing E-2C operational Flight Program (OFP). Performed data collection to support MSI efforts and participated in Fleet Battle Experiment Juiliet. Fund requirements analysis for development of integrated communication system architecture to support advanced sensor networking. Fund Fleet Battle Group interoperability testing and evaluation for the E-2C. Perform all source data fusion in the E-2 including radar, Identification Friend or Foe (IFF), Electronic Surveillance Measures (ESM), Link 16, Link 11, and Cooperative Engagement Capability (CEC).

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.000	1.200	
RDT&E Articles Quantity			

Integrated Processor Architecture Development

Perform integrated processor architecture development to support programs computer resources roadmap to improve computer performance and incorporate new technologies.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.295	2.100	0.200
RDT&E Articles Quantity			

Single Integrated Air Picture (SIAP) Block 0

Fund Multi-Source Integration (MSI) development to support SIAP and add correlation/decorrelation to support MSI.

CLASSIFICATION:

on			DATE:	Falaminamii 2004
PROGRAM ELEMENT NUMBER AND	NAME	PROJECT NUMBER AND NA		February 2004
	TO WILL			
0204132N, E-2 3QUADRONS		0403, E-20 IIVIPROVEIVIENT	3	
	FY 03	FY 04	FY 05	
		2.049	3.676	
(ABC2). Develop ABC2 Software and Auto	mated Decision A	ides.		
	FY 03	FY 04	FY 05	
			1.229	
and evaluation for fielding in the E-2C.				
	FY 03	FY 04 0.989	FY 05	
	0204152N, E-2 SQUADRONS I (ABC2). Develop ABC2 Software and Auto and evaluation for fielding in the E-2C.	FY 03 I (ABC2). Develop ABC2 Software and Automated Decision A FY 03	FY 03 FY 04 2.049 I (ABC2). Develop ABC2 Software and Automated Decision Aides. FY 03 FY 04	FY 03 FY 04 FY 05 2.049 3.676 I (ABC2). Develop ABC2 Software and Automated Decision Aides. FY 03 FY 04 FY 05 1.229

CLASSIFICATION:

			DATE: February 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAM	
T&E, N / BA-7	0204152N, E-2 SQUADRONS	0463, E-2C IMPROVEMENTS	
Accomplishments/Planned Program (Cont.)			
, ,			
11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.461	
RDT&E Articles Quantity			
Support integration of the Multi-purpose Trans	sportable Middleware capability into the E-2C Hawkeye 2000) mission computer.	
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	FY 03	FY 04 1.682	FY 05
RDT&E Articles Quantity			FY 05
RDT&E Articles Quantity Congressional Add for Non-Cooperative Com	bat Identification Capability (9419). neering, and system prototyping for an advanced non-coope	1.682 erative identification system capability.	
RDT&E Articles Quantity Congressional Add for Non-Cooperative Com	bat Identification Capability (9419).	1.682	FY 05

CLASSIFICATION:

HIBIT R-2a, RDT&E Project Justification					February 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER A	AND NAME		PROJECT NUMBER AND N	
DT&E, N / BA-7	0204152N, E-2 SQUADRONS			0463, E-2C IMPROVEMENT	-s
C. PROGRAM CHANGE SUMMARY:			•		
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	7.773	9.083	6.229		
Current BES/President's Budget:	8.502	19.331	6.055		
Total Adjustments	0.729	10.248	-0.174		
Summary of Adjustments Congressional program reductions					
Congressional program reductions Congressional undistributed reduction Congressional rescissions	ns	-0.232			
SBIR/STTR Transfer	-0.153				
Reprioritization		-0.220	-0.167		
Economic Assumtions			-0.007		
Reprogrammings	0.882				
Congressional increases		10.700			
Subtotal	0.729	10.248	-0.174		
	FY03 from the first quarter to the third or MSI to slide according. No impact to the	•		erformance in control signals	in Multi-Mission Advanced Tactical Terminal (MATT) rac
гесппсаг. пот дрисане.					

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:	
		February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0204152N, E-2 SQUADRONS	0463, E-2C IMPROVEMENTS	

D. OTHER PROGRAM FUNDING SUMMARY:

								To	Total
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
APN-1/E-2C (LI# 12 & 13)	286.594	226.811	247.950	249.059	208.579	175.895	733.639	10283.83	14917.757
APN-5/E-2C (LI# 36)	25.001	50.274	15.124	13.785	9.444	9.338	8.561	349.280	923.011
APN-6/E-2C (LI# 53)	20.970	2.947	1.148	0.000	0.000	0.000	11.925	287.622	430.515

Related RDT&E

- (U) 0204152N E-2 Squadrons PU E2321
- (U) 0603658N (Ship Self Defense, CEC)
- (U) 0604234N Advanced Hawkeye

E. ACQUISITION STRATEGY:

Not Applicable

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	je 1)								February 2	004			
APPROPRIATION/BUDGET ACTIVI			PROGRAM E	LEMENT			PROJECT NU	JMBER AND	NAME				
RDT&E, N / BA-7			0204152N, E-	2 SQUADRON			0463, E-2C IN	//PROVEMEN	ITS				
Cost Categories		Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete		Target Value of Contract
Primary Hardware Dev MCU	SS/CPIF	NGC, NY/FL		157.460								157.460	157.460
Primary Hardware Dev CEC	SS/CPFF	NGC, NY/FL		291.513								291.513	291.513
Primary Hardware Dev.	Various	Various		5.765	0.882	09/03						6.647	
Primary Hardware Mod ICR	SS/CPFF	NGC, NY		1.766								1.766	1.766
Primary Hardware - JMPS/TAMPS	WX	PT. Mugu, CA		0.255								0.255	
Primary Hardware - SEI	SS/CPFF	NGC, NY		7.638								7.638	7.638
Primary Hardware - MSI	C/CPFF	Various			2.925	02/03	0.700	10/03				3.625	3.625
Primary Hardware - IPAD	SS/CPFF	NGC					1.000	10/03				1.000	1.000
Primary Hardware - ABC2	Various	Various					2.049	01/04	1.800	10/04		3.849	
Primary Hardware - SIAP	Various	Various			1.093	01/03	2.100	01/04				3.193	
Primary Hardware - SIAP													
E-2C Prog Spt Act	TBD	Various					0.989	02/04				0.989	
E-2C Prog Spt Act-SBIR Phase III	TBD	Various					3.461	02/04				3.461	
Non-Coop Combat ID Capability	TBD	Various					1.682	02/04				1.682	
PMRF Net-Centric Test Bed	TBD	Various					4.450	02/04				4.450	
Training Development													
Licenses													
Tooling													
GFE													
Primary Hardware - AODS	TBD	Various							0.600	10/04		0.600	
Subtotal Product Development				464.397	4.900		16.431		2.400)		488.128	

Remarks:

CLASSIFICATION:

Remarks:

Exhibit R-3 Cost Analysis (pag	ge 1)							DATE: February 2	004			
APPROPRIATION/BUDGET ACTIV RDT&E, N / BA-7	ITY	PROGRAM EI 0204152N, E-:	LEMENT 2 SQUADRON	S		PROJECT NU 0463, E-2C IN						
Cost Categories	Contract Method & Type	,	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Government Eng. Spt - Various	WX/RC	NAWCAD, PAX RIVER, MD	75.228	0.118	01/03	1.100	10/03	1.073	10/04		77.519	
Government Eng. Spt -ASA/UESA	C/CPFF	Classified	5.661								5.661	5.66
Government Eng. Spt - ASA	MIPR	NRL, Wash., D.C.	0.600								0.600	
Government Eng. Spt	SS/CPFF	NGC, NY	2.301								2.301	2.30
Government Eng. Spt (RAND)	MIPR	Pentagon, Wash., D.C.	0.300								0.300	
Government Eng. Spt (SIAP)	Various	Various		0.202	05/03			0.200	10/04		0.402	
Development Support	WX/RL	NAWCAD, PAX RIVER, MD	0.000			0.600	10/03				0.600	
Software Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
						-						
						-						
Subtotal Support			84.090	0.320		1.700		1.273			87.383	

CLASSIFICATION:

								DATE:							
Exhibit R-3 Cost Analysis (pag-	e 2)							February 2004							
APPROPRIATION/BUDGET ACTIVI	TY	PROGRAM EI				PROJECT NU									
RDT&E, N / BA-7		0204152N, E-2		S		0463, E-2C IM				•					
Cost Categories	Contract		Total		FY 03		FY 04		FY 05						
	Method			FY 03	Award	FY 04	Award		Award	Cost to	Total	Target Value			
	& Type	Location	Cost	Cost	Date	Cost	Date		Date	Complete	Cost	of Contract			
Dev. Test & Eval MCU/Various	WX/RC	NAWCAD, PAX RIVER, MD	88.905	2.152	12/02	0.700	10/03	1.639	10/04	Continuing	Continuing				
,	PD	NAVSEA	2.483								2.483				
Dev. Test & Eval. LEAR Jet - MCU	PD	PMA-207	0.601								0.601				
Dev. Test & Eval MCU	WX	PMRF, HAWAII	1.500					1			1.500				
Dev. Test & Eval. Misc MCU	MIPR	VARIOUS	0.666								0.666				
Dev. Test & Eval Contract/Improv	MIPR	TBD	0.325								0.325				
Dev. Test & Eval EBC	TBD	VARIOUS	2.500								2.500				
Subtotal T&E			96.980	2.152		0.700		1.639		Continuing	Continuing				
Contractor Engineering Support											0.000				
Government Engineering Support											0.000				
Program Management Support	WX/RX	NAWCAD, PAX RIVER, MD	0.091	1.016	01/03	0.470	10/03	0.683	10/04		2.260				
Travel	WX/WR	NAWCAD, PAX RIVER, MD	0.166	0.114	12/02	0.030	10/03	0.060	10/04	Continuing	Continuing				
Transportation											0.000				
											0.000				
Subtotal Management			0.257	1.130		0.500		0.743		Continuing	Continuing				
Remarks:															
Total Cost			645.724	8.502		19.331		6.055		Continuing	Continuing				
Remarks:															

EXHIBIT R4, Schedule																									DATE Feb r	uary	2004	ı				
APPROPRIATION/BUDGET									PROC	3RAM	ELEM	ENT N	UMBE	R AND	MAM C	E					PROJ	ECT N	IUMBE	R ANI	D NAM	1E						
RDT&E, N /	BA-7	7							02041	152N, I	E-2 SC	UADR	RONS								0463,	E-2C	IMPRO	VEME	ENTS							
Fiscal Year		20	002	_		20	03	_		20	04			20	05			20	006			20	07			20	08	_		200	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition/T&E Milestones																																
MSI			Deve	elopme	ent		S&T D	emo			FQ	T I	Deplo	ľ																		
AODS										5	&T _/ De		OT				√De	oloy		Interin	S/W to	AHE										
										5	∠∴ &T _∕ D€		QT Tr	ansititio	on to																	
IPAD							_	evelop	ment				_\AH	IE/HE2	łΚ															1		
ABC2						FE	SE K						De	evelopr	nent					1							Т	ransitit	ion			
										JCI	ET/JTF	X 04						JCIE	T_06									to AH	E	i l		
MSI PH II						1	1	1		1	\triangle	1	1	1	1	1	1	1	\triangle	1	1				1	FC	Ţ			\vdash		
SIAP BIk 0																																
Production Milestones																																
LRIP I																																
LRIPII																																
FRP																																
Deliveries																																

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: February 2004								
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	EMENT			PROJECT NU							
RDT&BA-7		2 SQUADRON	S		0463, E-2C IM							
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2006	FY 2007	FY 2008	FY 2009					
	2Q - 4Q	1Q - 2Q	F1 2006	F1 2007	F1 2006	F1 2009						
MSI PH I Development MSI PH I S&T Demo	2Q - 4Q	3Q										
MSI PH I S&T Demo		ડQ	2-4Q									
MSI PH I Deploy			2-4Q	1Q								
AODS S&T			3Q	IQ								
AODS 5&T AODS FQT			4Q	1Q - 4Q								
AODS Deploy			70	10 - 40	1Q							
AODS Deploy AODS Interim S/W to AHE					4Q							
IPAD Development		1Q - 4Q	1Q - 4Q		1.5							
IPAD Demo			3Q									
IPAD Transition to AHE/HE2K			- 52	1Q								
ABC2 FBE K		3Q										
ABC2 Development			1Q - 4Q	1Q - 4Q	1Q - 4Q							
MSI PH II FQT		1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 3Q					
MSI PH II JCIET			3Q		3Q							
MSI PH II Transition to AHE							4Q					
SIAP Blk 0		1Q - 4Q	1Q - 4Q	1Q - 4Q								
					<u> </u>							
					1							
					1							
					+							
					+							

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE:			
						February 2004					
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NO	MENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALUA	TION, NAVY /		BA-7			PE: 0204163N TITLE: FLEET COMMUNICATIONS					
	Prior										Total
COST (\$ in Millions)	Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Total PE Cost	129.1	0.0	12.0	23.1	19.8	19.7	16.5	13.9	14.1	Continuing	Continuing
0725 Communications Automation	19.9		4.8	3.2	2.1	2.1	2.7	2.7	2.8	Continuing	Continuing
1083 Shore to Ship Communications	99.9		6.3	12.2	17.7	17.6	13.9	11.1	11.3	Continuing	Continuing
0795 Support of MEECN	6.0		1.0	0.8	0.0	0.0	0.0	0.0	0.0		7.8
9100 Programmable Integrated Communications Terminals	3.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.:
9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)	0.0		0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	6.9
Quantity of RDT&E Articles											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Communications Automation Program - This project is a continuing program that provides for automation and communications upgrades for Fleet tactical users. It includes Tactical Messaging (formerly Naval Modular Automated Communications System/Single Messaging Solution II (NAVMACS/SMSII), Digital Wideband Transition System (DWTS) Low-Data Rate (EPLRS), Joint Network Management System (JNMS), Automated Digital Network System (ADNS), and Naval Global Directory Services.

In FY 04 the Program of record Name changed to Tactical Messaging in order to better depict the latest technology capabilities being developed. As in previous years Tactical Messaging (formerly NAVMACS/SMSII) develops joint/combined individual and organizational message handling to US Naval ships and submarines, United States Marine Corp (USMC) vans, and selected Military Sealift Command (MSC) and United States Coast Guard (USCG) platforms. Tactical Messaging (NAVMACS II/SMS) develops fleet interface to Defense Messaging System (DMS) and legacy ashore messaging systems.

DWTS Low-Data Rate (EPLRS) Navy requires a digital wideband capability, which can be used in amphibious operations where a fixed DWTS station cannot be used. System must be interoperable with Army and Marine Corps EPLRS system. DWTS Block Upgrade BRAVO improves the fixed DWTS station to operate at higher bandwidths with greater reliability than the current system.

The Joint Network Management System (JNMS) is a CINC, Commander, Joint Forces (CJF) joint communications planning system with Department of the Army as the Executive Agent. It is intended to be an automated software system including capabilities for planning and engineering, monitoring, control and reconfigurations, spectrum management and security.

The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Military SATCOM multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. This project has extremely high visibility within the DoD and United States Congress. The project was moved to PEO C4I & Space, PMW 176 from the United States Air Force starting in FY04 to better meet the requirements, deadlines, and funding priorities established for the project.

R-1 SHOPPING LIST - Item No. 168

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 47)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURI	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-7	PE: 0204163N TITLE: I	FLEET COMMUNICATIONS

ADNS provides automated routing and switching of Tactical and Strategic C4I data via Transmission Control Protocol (TCP/IP) networks linking deployed Battle Group units with each other and with the DISN ashore via multiple Radio Frequency (RF) paths. Consists of Commercial Off-The-Shelf (COTS) non-developmental Joint Tactical Architecture (JTA) compliant hardware (routers, processors, switches) and commercial Y2K compliant software (VxWorks toolkit) in a standardized, scalable shock qualified rack design. Provides Internet Protocol (IP) connectivity afloat and ashore. Merges multiple redundant stove pipe communications circuits and efficiently manages RF assets resulting in better throughput using existing RF media. Line includes Network Operation Centers (NOCs) Ashore.

Naval Global Directory Services is a key component of the infrastructure that will be leveraged to support a variety of network operations to include, but not limited to, Single Point of Administration (SPA) and Unified Account Management; Software Distribution; White/Yellow/Blue Pages; Menu, Profile, and Application Management; Public Key Infrastructure (PKI)-enablement of applications/devices; and Network Management. The Naval Global Directory Services will leverage the Afloat deployed White Pages to construct individual ship Afloat Full Service Directories which will create a foundation for further development, over time, to create a ship-to-shore and ship-to-ship Naval Global Directory Services.

The Shore to Ship Communications System develops communications systems elements which provide positive command and control of deployed ballistic missile submarines (SSBNs). Provides the communication elements for continuous assessment of the command and control link between Secretary of Defense and the ballistic missile platforms. Provides the tools for strategic command and control planning to deployed SSBNs including shore infrastructure for EAM distribution.

Minimum Essential Emergency Communications Network (MEECN) is the Tri-Service transmission system, including land-based segment, which ensured delivery of Emergency Action Messages (EAM) to our strategic platforms.

The programmable Integrated Communications Terminal (PICT) is a user voice terminal designed to operate with Integrated Service Digital Network (ISDN) switches and legacy switches to support both interior and radio (external) shipboard communications. The Digital Modular Radio (DMR) system will be integrated into submarine communications systems that require remote control capability to the radio for various end user applications. These integrated communications systems will include both internal phone and internal communications such as the Integrated Voice Network (IVN) as well as external radio communications. This was a Congressional Add in FY02 only.

U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUME	BER AND NAM	E	PROJECT NU	MBER AND NA	AME			
RDT&E, N / BA-7	0204163N FI	LEET COMMU	NICATION			0725 Commun	ications Autom	ation			
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program
Project Cost	19.9	4.8	3.2	2.1	2.1	2.7	2.7	2.8		Continuing	Continuing
RDT&E Articles Qty					· · · · · · · · · · · · · · · · · · ·						0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project is a continuing program that provides for automation and communications upgrades for Fleet tactical users. Tactical Messaging, formerly (The Naval Modular Automated Communications System II (NAVMACS II)/Single Messaging Solution (SMS)) is the network centric Internet Protocol (IP) solution for the processing, storage, distribution and forwarding of General Service and Defense Messaging System (DMS) organizational messages to the user's desktop throughout the IT-21 Local Area Network (LAN)/Wide Area Network (WAN). The Joint Network Management System (JNMS) is a CINC, Commander, Joint Forces (CJF) joint communications planning system with the Department of the Army as the Executive Agent. It is intended to be an automated software system including capabilities for planning and engineering, monitoring, control and reconfigurations, spectrum management and security. Automated Digital Network System (ADNS) provides automated routing and switching of Tactical and Strategic C4I data via Transmission Control Protocol (TCP/IP) networks linking deployed Battle Group units with each other and with the Defense Information Systems Network (DISN) ashore via multiple Radio Frequency (RF) paths. Consists of Commercial Off-The-Shelf (COTS) non-developmental Joint Tactical Architecture (JTA) compliant hardware (routers, processors, switches) and commercial Y2K compliant software (VxWorks toolkit) in a standardized, scalable shock qualified rack design. Provides Internet Protocol (IP) connectivity afloat and ashore. Merges multiple redundant stove pipe communications circuits and efficiently manages RF assets resulting in better throughput using existing RF medial. Line includes Network Operation Centers (NOCs) Ashore. Global Directory Services is a key component of the infrastructure that will be leveraged to support a variety of network operations to include, but not limited to, Single Point of Administration (SPA) and Unified Account Management; Software Distribution; White/Yellow/Blue Pages; Menu, Profile, and Ap

R-1 SHOPPING LIST - Item No.

168

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justific	ation		DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME
RDT&E, N /BA-7	0204163N Shore to Ship Communications Systems	0725 Communications Autor	mation

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
ADNS	1.248	0.374	0.428
RDT&E Articles Quantity			

FY03 Accomplishments: Conducted analysis, testing and demonstration in support of future technology refresh. Began development of initial traffic management and Quality of Service (QoS) capabilities. Demonstrated policy routing scheme. Initiated analysis of Voice over Internet Protocol (VoIP) alternatives.

FY04: Continue development of converged voice, video and data capability within ADNS. Continue analysis of VoIP alternatives. Demonstrate VoIP capability. Develop advanced methods to implement prioritization of data using message traffic precedence, dynamic bandwidth management, and asymmetrical operations under Emission Control (EMCON) conditions. Analyze and test line of sight (LOS) and airborne networking. Devise solutions for Allied and coalition interoperability.

FY05: Develop methods for implementing Internet Protocol version 6 (IPv6). Devise solutions for dual stack(IPv4 and IPv6) policy routing. Develop methodology for implementing Black Routing within ADNS. Develop advanced traffic management and control and Quality of Service (QoS) capabilities. Demonstrate dynamic routing scheme.

	FY 03	FY 04	FY 05
Tactical Messaging (NAVMACS)	1.896	1.302	1.214
RDT&E Articles Quantity			

FY03 Accomplishments: Completed HW/SW test and integration for SMS ph2. Completed development and test efforts for multi-enclave messaging administration terminals. Successfully tested DMS Afloat at the Joint Interoperability Certification (JIC) Excercise as part of JUICE '03. Continued test and evaluation of emerging technology and product upgrades such as DMS Directory System Enhancements (DSE Upgrade), Maintenance Release 1 (MR1), and Windows 2000 migration as directed by DISA, DMDS 6.2, and GOTS Delta products. Commenced architecture planning for DMS Client/Server convergence with ISNS.

FY04: Continue development and test efforts for emerging technology and product upgrades such and DMS (DSE Upgrade), Maintenace Release 2 (MR2), complete Windows 2000 migration, IP broadcast integration, Web based solutions, and COTS SW/HW refresh for all enclaves and USN platforms. Support DICE '04 Joint Operational Testing.

FY05: Continue development and test efforts for emerging technology and product upgrades such as DMS, profilers, IP broadcast, Web based solutions, and COTS SW/HW refresh for all enclaves and USN platforms. Conduct Follow-on Operational Test and Evaluation (FOT&E).

CLASSIFICATION:

Global Directory Services

RDT&E Articles Quantity

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	IBER AND NAME	PROJECT NUMBER AND N	NAME	
RDT&E, N /BA-7	0204163N Shore to Ship Co	ommunications Systems	0725 Communications Autor	mation	
(U) B. Accomplishments/Planned Program				_	
	FY 03	FY 04	FY 05		

1.169

0.438

FY03 Accomplishments: Provided continuing design and development efforts that built an enterprise-wide directory service environment by bridging efforts developed in FY02. Specifically provided for the development of a global meta-directory service that integrated disparate directory services used throughout the Naval community. Efforts also included developing a directory service architecture to support the development of Universal E-mail and provided developmental engineering support for the new functionality that interacted with the Navy/Marine Corps White Pages and related directory service environments.

FY04: Continue the development of the Naval Global Directory Service (NGDS) -- enterprise-wide directory service environment. Assist in the convergence of NMCI, IT21, and OCONUS environments. Provide an infrastructure for the development and integration of new Navy Portal functionality. Develop an architecture that provides the ability to integrate with the Global Mail Routing Service (GMRS). Provide developmental engineering support for new network functionality within the shipboard environment.

FY05: Continue the development of the Naval Global Directory Service (NGDS) -- enterprise-wide directory service environment. Assist in the continuing integration of critical NMCI, IT21, and OCONUS components. Develop an architecture that will provide the ability to establish Universal Accounts. Provide developmental engineering support for ship-to-shore communications and data sharing.

	FY 03	FY 04	FY 05
JNMS	0.000	0.350	0.000
RDT&E Articles Quantity			

1.635

FY04: Support testing of JNMS for Integrated Shipboard and Network Systems (ISNS), ADNS, and lab activities for security accreditation of the system.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
						February 2004
APPROPRIATION/BUDGET ACTIVITY		MENT NUMBER			PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0204163N Shor	e to Ship Commu	nications Syste	ems	0725 Communications Automation	
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:		FY 2003	FY 2004	FY 2005		
FY04 President's Budget:		4.646	3.271	2.935		
FY05 President's Budget:		4.779	3.195	2.080		
Total Adjustments		0.133	-0.076	-0.855	•	
Summary of Adjustments						
Issue 19004 Tech Issue: Naval Global Directo	ory Service (NGDS)			-0.830		
Issue 66556 FY03_SBIR_5-May-03	, ,	-0.064				
Issue 67689 MANPOWER				-0.011		
Issue 66961 SPAWAR Service Cost Center A	djustments		-0.008	-0.006		
Issue 68849 FY03 Update		0.197	0.000	-0.005		
Issue 68041 Section 8094: Management Impr Issue 68060 Section 8029: FFRDC Reduction			-0.009 -0.031			
Issue 68066 Section 8126: Efficiencies/Revise			-0.031 -0.028			
Issue 69025 WCW - R&D - SPAWAR - PBD 4			0.020	-0.002		
Issue 69045 PBD 426 Rates - SSC				0.006		
Issue 69492 PBD 604 Inflation				-0.006		
Issue 69512 PBD 604 Non Purchase Inflation				-0.001		
Subtotal		0.133	-0.076	-0.855		
(U) Schedule:						
Not Applicable						
(U) Technical:						
Not Applicable						
er present						

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	on	DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204163N Shore to Ship Communications Systems	0725 Communications Automation
	•	

(U) D. OTHER PROGRAM FUNDING SUMMARY:

								10	TOlai
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
3050 - Comm Auto - NAVMACS	9.248	7.230	10.519	11.834	1.053	2.719	3.008	Continuing	Continuing
3050 - Comm Auto - JNMS	0.000	5.682	1.396	1.687	1.930	2.118	2.170	Continuing	Continuing
3050 - Comm Auto - ADNS	43.682	18.908	41.474	40.992	35.781	32.939	33.962	Continuing	Continuing

(U) E. ACQUISITION STRATEGY: *

ADNS: Evolutionary acquisition approach with overlapping development and implementation phases for differing incremental baselines. Use existing competitively awarded contracts during the initial production phase with plans to introduce innovative contract types that implement changes consistent with acquisition streamlining initiatives. Aggressively leverage COTS products while capitalizing on acquisition reform initiatives to achieve material savings in the logistics, installation, integration and training areas. Employ many types of advantageous contract vehicles which provide flexibility, decreased contract administrative costs, and encourage acquisition streamlining through the use of COTS products.

NAVMACS: The Tactical Messaging acquisition approach has evolved according to key technology advances, resulting incremental developmental phases, and the principals of acquisition reform. While initial production units were acquired through competitively awarded vehicles, future contracting will also embrace acquisition streamlinging initiatives in addition to maintaining the benefits of competitive, best value contracting. The technical solutions and areas of acquisition reform will continue to emphasize procurement of best-of-breed Commercial Off The Shelf (COTS) items that provide spin-off savings in installation, spare parts support, integration, test and evaluation, and training and maintenance.

Acquisition, management and contracting strategies are to support:

- JNMS, that provides an automated software system including capabilities for planning and engineering, monitoring, control and reconfigurations, spectrum management and security
- GDS, to support a variety of network operations that include Single Point of Administration (SPA) and Unified Account Management; Software Distribution; White/Yellow/Blue Pages; Menu, Profile, and Application Management; PKI-enablement of applications/devices; and Network Management. ALL management oversight by SPAWAR.

(U) F. MAJOR PERFORMERS: **

N/A

- * Not required for Budget Activities 1,2,3, and 6
- ** Required for DON and OSD submit only.

CLASSIFICATION:

Remarks:

									DATE:				
Exhibit R-3 Cost Analysis (pa	ge 1)										February 200	04	
APPROPRIATION/BUDGET ACTIV			PROGRAM E	LEMENT			PROJECT NU	MBER AND	NAME				
RDT&E, N / BA-7			0204163N S	hore to Ship Co	mmunications	Systems	0725 Commur	nications Aut	omation				
Cost Categories		Performing Activity & Location		Total PY s Cost	FY 03	FY 03 Award Date	FY 04	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	PO	SSC		2.814								Continuing	1
Ancillary Hardware Development												0.000	
Aircraft Integration												0.000	
Ship Integration												0.000	
Ship Suitability												0.000	
Systems Engineering	PO	SSC		8.207	0.637	Dec 2002	0.251	Dec 2003	0.268	8 Dec 2004		Continuing	
Prime Mission Product	PO	SSC		1.583	1.278	Dec 2002	0.687	Dec 2003	0.610	Dec 2004		Continuing	
Licenses												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Systems Engineering	CPAF	MAXIM (PMTO	J)	0.348	0.060	Dec 2002	0.060	Dec 2003	0.060	Dec 2004		Continuing	
												0.000	
												0.000	
<u> </u>												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
<u> </u>												0.000	
												0.000	
Subtotal Product Development				12.952	1.975		0.998		0.938	8	0.000	Continuing	

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1 APPROPRIATION/BUDGET ACTIVITY	1\								DATE:				
APPROPRIATION/BUDGET ACTIVITY	1)										February 200	04	
			PROGRAM E	LEMENT			PROJECT NU	JMBER AND	NAME				
RDT&E, N / BA-7			0204163N SI	nore to Ship (Communications	Systems	0725 Commur	nications Auto	omation				
		Performing		Total		FY 03		FY 04		FY 05			
	ethod	Activity &		PY s	FY 03	Award		Award	FY 05	Award	Cost to	Total	Target Value
& 7	Туре	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Development Support												0.000	
Software Development Va	ar	Various		1.41	1 1.63	Dec 2002	1.169	Dec 2003	0.438	Dec 2004		Continuing	
Integrated Logistics Support												0.000	
Configuration Management												0.000	
Technical Data												0.000	
Studies & Analyses												0.000	
GFE												0.000	
Award Fees												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
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												0.000	
												0.000	
												0.000	
Cubtatal Cura and				4.4	1.63	-	1.169		0.438		0.000		
Subtotal Support				1.4	1.63	P	1.169		0.438)	0.000	Continuing	l

CLASSIFICATION:

								IDATE.				
Exhibit R-3 Cost Analysis (pag	ae 2)							DATE:		February 200	04	
APPROPRIATION/BUDGET ACTIV		PROGRAM	ELEMENT	-		PROJECT NU	JMBER AND	NAME				-
RDT&E, N / BA-7		0204163N S	Shore to Ship Co	ommunications	Systems	0725 Commu	nications Auto	omation				
Cost Categories	Contract Method & Type		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000)
Operational Test & Evaluation	РО	SSC	2.982	0.410	Dec 2002	0.490	Dec 2003	0.165	Dec 2004		Continuing	1
Operational Test & Evaluation	MIPR	OPTEVFOR	0.315	5					1		0.315	5
Operational Test & Evaluation	Var	Various	0.350)							0.350)
Tooling				1					1		0.000)
GFE				1					1		0.000	
Award Fees											0.000)
Subtotal T&E			3.647	7 0.410	,	0.490		0.165	j	0.000		
							_					
Contractor Engineering Support	MPIR	US Army, Monmouth, NJ		0.123	Dec 2002	0.123	Dec 2003	0.123	Dec 2004		0.369)
Government Engineering Support											0.000)
Program Management Support	PO	SSC	1.317		Dec 2002		Dec 2003		Dec 2004		Continuing	*
Program Management Support	CPAF	BAH	0.599	0.387	Dec 2002	0.277	Dec 2003	0.285	Dec 2004		Continuing	-
Transportation											0.000	
SBIR Assessment											0.000)
Subtotal Management			1.916	0.759	1	0.538	3	0.539	1	0.000	Continuing	3
Remarks:												
Total Cost	\top		19.926	4.779	,	3.195	5	2.080)	0.000	Continuing	a
Remarks:												

EXHIBIT R4, Schedu	le Profile																									DATE	:					
APPROPRIATION/BUDG	ET ACTIVI	TY								PRO	3RAM	FLEM	IENT I	JIIMR	ER AN	D NAM	F					PRO	IECT N	JIIMBE	ER AN	ID NAN	ЛE		ebru	ary 20)04	
RDT&E, N /	BA-7														munic			าร								utomat		ONS				
Fiscal Year			003				200)4				005				006	,		2	007			20	800			20	009				
i isaa raa	1	2	3		4	1	2	3	4	1	2	3	6 4	1	2	3	4	1	2	3	4	1	2	3	4	. 1	2	3	3 4			
Acquisition Milestones			I OC Incr 1	$\stackrel{\wedge}{\bowtie}$																												
Prototype Phase	CDR — Incr 1																															
System Development		Dev	Incr 1																													
Test & Evaluation Milestones Development Test								DT Incr 1	ОТ																							
Operational Test									Incr	1																						
Deliveries																																

^{*} Not required for Budget Activities 1, 2, 3, and 6

^{1.} Initial OPEVAL Q2, 01. Subsequent discussions between OPNAV, COTF, and Program Office agreed the submarine variant of ADNS required additional Operational testing.

CLASSIFICATION:

EXHIBIT R4, Schedu	le Profile	;																								DATE	Ē:					
APPROPRIATION/BUDG	FT ACTIV	'ITY							PROC	RAM	FLEM	FNT I	NUME	BFR A	ND N	AMF						PRO.	IFCT N	JUMBI	FR AN	ID NAN	ИF	F	ebru	ary 2	004	
RDT&E, N /	BA-								02041								tems	;								utoma		DNS				
Fiscal Year		20	003			200	04			20	05				2006				20	007			20	800			20	009				
	1	2	2 3	4	1	2	3	4	1	2	3	4	ı	1	2	3	4	1	2	3	4	1	2	3	4	1	2	2 ;	3 4	1		
Acquisition Milestones									IOC In	cr 2																						
Prototype Phase	SDR	PDR	Phase	CD]																											
System Development	Incr 2	Incr 2		R - Inc r 2																												
	Sys	Dev I	ncr 2]																												
Test & Evaluation Milestones Development Test								[T Incr		OT Inc	er 2																				
Operational Test																																
Deliveries																																

^{*} Not required for Budget Activities 1, 2, 3, and 6

EXHIBIT R4, Schedule																										DAT	E:	F	ebru	ary 2	004	
APPROPRIATION/BUDGE	T ACTIV	ITY								PRO	GRAM	ELEN	IENT N	NUMBE	R AN	D NAN	ΛE					PRO	JECT N	NUMB	ER AN	ND NA	ME					
RDT&E, N /	BA-7	7								0204	163N	Shore	to Ship	o Com	munica	ations	Systen	ıs				0725	Comm	unicat	tions A	Automa	ation/A	DNS				
Fiscal Year		2	003				2004	4			20	005			20	006			2	007			20	800			2	009				
	1	2	3	4	ı	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	3 4	4	1 :	2 3	4	ļ		
Acquisition Milestones																	I	OC Inc	r 3													
Prototype Phase											Proto Type Phas e Incr 3		Incr 3 SDR	PDR																		
System Development													Sys	Dev I	ncr 3																	
																		DT Incr 3														_
Test & Evaluation Milestones																			•	0												
Development Test																				Inc												
Operational Test																																
Deliveries																																T

^{*} Not required for Budget Activities 1, 2, 3, and 6

EXHIBIT R4, Schedule	Profile																								DAT	E:	ı	ebru	ary 2	004	
APPROPRIATION/BUDGE									F	PROG	RAM	ELEM	IENT I	NUME	ER AN	ID NA	ME					PROJ	ECT N	NUMBER A	ND NA	AME					
RDT&E, N /	BA-7	,							(02041	63N S	Shore	to Shi	p Con	nmunio	ations	System	าร				0725	Comm	nunications	Autom	ation/A	ADNS				
Fiscal Year		20	003				2004				20	05			2	006			:	2007			20	800		2	2009				
	1	2	2 3	3 4	ļ	1	2	3	4	1	2	3	4	ļ	1 :	2 ;	3 4	1		2 3	4	1	2	3	4	1	2	3 4	4		
Acquisition Milestones																								IOC In	cr 4						
Prototype Phase																	Proto Type Phas e Incr 4	In	icr 4	PDR Incr 4	CDF Incr										
System Development																			Sy	vs Dev In	cr 3										
																								DT							
Test & Evaluation Milestones																									ОТ						
Development Test																									Incr	4					
Operational Test																															
Deliveries																															

^{*} Not required for Budget Activities 1, 2, 3, and 6

Exhibit R-4a, Schedule Detail						DATE:		
, , , , , , , , , , , , , , , , , , , ,							February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU			
RDT&E, N / BA-7	PE: 0204163N	N Shore to Sh	ip Communicat	tions Systems	0725 Commur	nications Autom	nation/ADNS	
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
INCREMENT I								
MAGTF Router (MR) R-4 #1								
Prototype Phase								
System Design Review (SDR)								
Preliminary Design Review (PDR)								
System Development	1-3Q							
Critical Design Review (CDR)	1Q							
IOC	4Q							
Developmental Testing (DT)		3Q						
Operational Testing (OT)		4Q						
INCREMENT II								
Initial Traffic Management, Shore (TMS) R-4 #2								
Prototype Phase	1-4Q							
System Design Review (SDR)	1Q							
Preliminary Design Review (PDR) System Development	2Q 1-3Q							
Critical Design Review (CDR)	1-3Q 3Q							
IOC	ડ Q		1Q					
Developmental Testing (DT)			1Q 1Q					
Operational Testing (OT)			3Q					
Intitial QOS (IQOS) R-4 #2			JQ					
Prototype Phase	1-4Q							
System Design Review (SDR)	1Q							
Preliminary Design Review (PDR)	2Q							
System Development	1-3Q							
Critical Design Review (CDR)	3Q							
IOC			1Q					
Developmental Testing (DT)			1Q					
Operational Testing (OT)			3Q					

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
,						ı	ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT			PROJECT NU	JMBER AND NA	AME	
RDT&E, N / BA-7	PE: 0204163N	Shore to Sh	ip Communicat	tions Systems	0725 Commu	nications Autom	nation/ADNS	
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
INCREMENT III								
Voice Over IP (VOIP) R-4 #3								
Prototype Phase			2Q					
System Design Review (SDR)			4Q					
Preliminary Design Review (PDR)				1Q				
System Development			4Q	2Q				
Critical Design Review (CDR)				2Q				
IOC					Q1			
Developmental Testing (DT)					Q1			
Operational Testing (OT)					Q3			
Advanced QOS (AQOS) R-4 #3								
Prototype Phase			2Q					
System Design Review (SDR)			4Q					
Preliminary Design Review (PDR)				1Q				
System Development			4Q	2Q				
Critical Design Review (CDR)				2Q				
IOC					Q1			
Developmental Testing (DT)					Q1			
Operational Testing (OT)					Q3			
Advanced Traffic Management (ADVTM) R-4 #2								
Prototype Phase			2Q					
System Design Review (SDR)			4Q					
Preliminary Design Review (PDR)				1Q				
System Development			4Q	2Q				
Critical Design Review (CDR)				2Q				
IOC					Q1			
Developmental Testing (DT)					Q1			
Operational Testing (OT)					Q3			
TPV6 (IPV6)								
Prototype Phase			2Q					
System Design Review (SDR)			4Q					
Preliminary Design Review (PDR)				1Q				
System Development			4Q	2Q				
Critical Design Review (CDR)				2Q				
IOC					Q1			
Developmental Testing (DT)					Q1			
Operational Testing (OT)					Q3			

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						ı	February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	EMENT			PROJECT NU	MBER AND N		
RDT&E, N / BA-7	PE: 0204163N	Shore to Sh	ip Communicat	ions Systems	0725 Commur	nications Autom	nation/ADNS	
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
INCREMENT IV	1 1 2000	200 .	2000	1 1 2000	1 1 2001	2000	2000	2010
Black Routing (BR)								
Prototype Phase				4Q				
System Design Review (SDR)					2Q			
Preliminary Design Review (PDR)					3Q			
System Development					2-4Q			
Critical Design Review (CDR)					4Q			
IOC						3Q		
Developmental Testing (DT)						3Q		
Operational Testing (OT)							1Q	
JTRS Integration (JTRSI)								
Prototype Phase				4Q				
System Design Review (SDR)					2Q			
Preliminary Design Review (PDR)					3Q			
System Development					2-4Q			
Critical Design Review (CDR)					4Q			
IOC						3Q		
Developmental Testing (DT)						3Q		
Operational Testing (OT)							1Q	
Transformational Communications (TC)								
Prototype Phase				4Q				
System Design Review (SDR)					2Q			
Preliminary Design Review (PDR)					3Q			
System Development					2-4Q			
Critical Design Review (CDR)					4Q			
IOC						3Q		
Developmental Testing (DT)						3Q		
Operational Testing (OT)							1Q	

CLASSIFICATION:

EXHIBIT R4, Schedule F	Profile																								DATE	:	Fe	ebrua	ry 20	04		
APPROPRIATION/BUDGET		ΓY							PROG						D NAM	1E						ECT N										
RDT&E, N /	BA-7				1				02041	63N FI	leet C	ommu	nicatio	ns			I				0725	Commi	unicati	ons A	utomat	ion/Tac	ctical M	essagir	ng			
Fiscal Year		20	003			20	04			200)5			20	06			20	07			200	8			200	09					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones			ТО	MS () }					IOC		FRP					sc							MS								
Prototype Phase						IP Bro	adcast	/DMS	CO-HC	OST						CEN	TRIC I	MESSA	AGING	PROT	OTYP	E										
					DSE]		[MESSAG							RTION			ADV			SAGIN				CHNOL	.OGY					
Development			DM:	S AFL	OAT M	R1 / N SDR		PDR		△ CDR	DI	MS UF	GRAD	ES	△ SDR			△ PDR			CDR	SC	I CAP	ABILIT	ΪΥ							
EDM Delivery								△ LAB II		JITC II										LAB II	7	JITC III										
Software S/W Delivery 2.3 S/W Delivery 2.4 S/W Delivery 3.0						 IPR					IPR '	<u> </u>																				
Test & Evaluation Milestones																																
Development Test					DTIII - I	DTI	II - J					D	TIII - K	DTI	II - L					D	TIII - M	DTII	II - N	_								
Operational Test								0	T-III B							0	T-III C							0	T-III D							
JITC IV&V Certification																																
Production Milestones																																
FRP FY 95					PR	ODUCTI	ON DEV	<u>. </u>			PRO	ODUCT	ON DEV	/ <u>.</u>			PR	ODUCTI	ON DEV				PRO	DUCTI	ON DEV	7.						
Deliveries			10				8]		22				18				2				2				3					

 $^{^{\}star}$ Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	ebruary 200)4
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT			PROJECT NU	IMBER AND NA		•
RDT&E, N / BA-7	0204163N Flee	et Communicat	ions			nications Autom		lessaging
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	3
IATO	2Q-3Q							
IOC			2Q					
Milestone C	4Q			4Q		4Q		
FRP			4Q					
IP Broadcast		1Q-4Q						
ISNS / DMS CO-HOST		3Q-4Q	1Q-2Q					
Centric Messaging Prototype				4Q	1Q-4Q	1Q-2Q		
Build 2.3/DMS Integration	1Q							
DMS System Eng.	3Q	1Q						
DMS Afloat MR 1 / MR 2	1Q-4Q	1Q-4Q						
Messaging Block Upgrade/Tech Insertion		4Q	1Q-4Q	1Q-4Q	1Q-2Q			
DMS Upgrades			3Q-4Q	1Q-2Q				
Advanced Messaging					3Q-4Q	1Q-3Q		
SCI Capibility						2Q-4Q	1Q	
Technology						4Q	1Q-4Q	
CDR			2Q		4Q			
SDR		1Q-2Q		3Q				
PDR		3Q-4Q			2Q			
EMD - Lab		4Q			4Q	1Q		
EMD - JITC			1Q-2Q			2Q		
S/W Delivery 2.3	2Q-4Q	1Q-3Q						
S/W Delivery 2.4		3Q-4Q	1Q-3Q					·
S/W Delivery 3.0				2Q-4Q	1Q-3Q		-	
IPR		2Q-3Q	4Q				-	
Development Test	4Q	1Q, 2Q-3Q	4Q	1Q, 2Q-3Q	4Q	1Q, 2Q-3Q		
Operational Test		4Q	1Q-2Q	4Q	1Q	4Q	1Q	
JITC IV&V Certification	1Q, 3Q-4Q	1Q-2Q	1Q-4Q	2Q-4Q	1Q	1Q-4Q	1Q-4Q	
Deliveries	10	8	22	18	2	2	3	

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	EMENT NUME	BER AND NAM	E	PROJECT NU	MBER AND NA	AME			
RDT&E, N / BA-7	0204163N FI	LEET COMMU	NICATION			1083 Shore t	o Ship Commu	inications Syste	ems		
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program
Project Cost	99.9	6.3	12.2	17.7	17.6	13.9	11.1	11.3		Continuing	Continuing
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project develops communications systems elements that provide positive command and control of deployed ballistic missile submarines (SSBNs) and fleet submarine broadcast connectivity to SSNs, SSGNs and SSBNs. This project provides enhancements to the shore-to-ship transmitting systems and provides submarine unique capabilities to the Network Operation Center (NOC) and Broadcast Control Authority (BCA). The NOC and the BCA provide the oversight and control for all fixed submarine broadcasts. Evaluation of this communications system performance is provided via the Strategic Communications Assessment Program (SCAP). The Continued Evaluation Program (CEP) provides constant assessment of the effectiveness of the end-to-end network. The Submarine Operating Authority (SUBOPAUTH) includes both Submarine Communications and Operational Control (OPCON) at shore sites. A SUBOPAUTH architecture provides for back-up capability among the four BCA/OPCONs to ensure Continuity of Operations (COOP) in the event of a BCA outage. The Common Submarine Radio Room (CSRR) integrates COTS and GOTS components into a single radio room configuration for all classes of submarines. The CSRR design is based on the Virginia class radio room and is adapted for each platform's hull shape and mission needs. Technologies to improve high voltage insulators, helix house bushings and antenna components used in the Fixed VLF (FVLF) transmit systems are evaluated and tested through the High Voltage Improvement Program (HVIP). EAM 2010 will provide a communications approach in support of the Joint Operational Architecture (JOA) for time-critical EAMs to be disseminated across Areas of Responsibility (AOR's) in support of Joint operations. This project implements the Joint Staff EAM Board of Directors (BoD) direction to ensure an acquisition strategy exists for a viable long-term EAM dissemination solution (EAM 2010) and that near term enhancements enable the interim hybrid solution to have an infrastructure to allow life sustainment until a replace

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	ation			DATE:	
•					February 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBE	R AND NAME	PROJECT NUMBER AND	NAME	<u> </u>
T&E, N /BA-7	0204163N Fleet Communication	ons	1083 Shore to Ship Com	nmunications Systems	3
B. Accomplishments/Planned Program					
,	FY 03	FY 04	FV 05		
High Voltage Improvement Program	0.388	0.350	FY 05 0.431		
RDT&E Articles Quantity	0.366	0.550	0.431		
NDTAL Articles Quantity					
FY04: Complete testing of system to detect of of electrically small antennas for VLF/LF transinguy/top hat insulators. FY05: Complete development of remote cord	smits applications. Begin investigation of the same state of the s	wide a heightened protect methods for providing ad y for FVLF sites. Comple	ditional high voltage perform	nance margin for helix	house exit bushings and
FY04: Complete testing of system to detect or of electrically small antennas for VLF/LF trans guy/top hat insulators.	nset of corona breakdown which will prosmits applications. Begin investigation on monitoring/sensing system capability long term operation in high electromagn	wide a heightened protect methods for providing ad y for FVLF sites. Complet neticfields.	ditional high voltage perforn	nance margin for helix	house exit bushings and
FY04: Complete testing of system to detect or of electrically small antennas for VLF/LF transinguy/top hat insulators. FY05: Complete development of remote cordinvestigation into new materials for sustained	nset of corona breakdown which will prosmits applications. Begin investigation on a monitoring/sensing system capability long term operation in high electromagn	vide a heightened protect methods for providing ad y for FVLF sites. Complet neticfields.	ditional high voltage perforn te investigation on helix hou FY 05	nance margin for helix	house exit bushings and
FY04: Complete testing of system to detect or of electrically small antennas for VLF/LF transguy/top hat insulators. FY05: Complete development of remote cordinvestigation into new materials for sustained Common Submarine Radio Room (CSRR)	nset of corona breakdown which will prosmits applications. Begin investigation on monitoring/sensing system capability long term operation in high electromagn	wide a heightened protect methods for providing ad y for FVLF sites. Complet neticfields.	ditional high voltage perforn	nance margin for helix	house exit bushings and
FY04: Complete testing of system to detect of electrically small antennas for VLF/LF transinguy/top hat insulators. FY05: Complete development of remote cordinvestigation into new materials for sustained	nset of corona breakdown which will prosmits applications. Begin investigation on a monitoring/sensing system capability long term operation in high electromagn	vide a heightened protect methods for providing ad y for FVLF sites. Complet neticfields.	ditional high voltage perforn te investigation on helix hou FY 05	nance margin for helix	house exit bushings and
FY04: Complete testing of system to detect or of electrically small antennas for VLF/LF transguy/top hat insulators. FY05: Complete development of remote cordinvestigation into new materials for sustained Common Submarine Radio Room (CSRR)	nset of corona breakdown which will prosmits applications. Begin investigation on a monitoring/sensing system capability long term operation in high electromagn FY 03 0.925 gineering, integration and test for CSRR of SSBN variant of CSRR.	rvide a heightened protect methods for providing add by for FVLF sites. Complete icticfields. FY 04 0.950 architecture and compo	te investigation on helix hou FY 05 0.950 nent upgrades and complete	nance margin for helix	house exit bushings and insulators. Begin the
FY04: Complete testing of system to detect or of electrically small antennas for VLF/LF transguy/top hat insulators. FY05: Complete development of remote cordinvestigation into new materials for sustained Common Submarine Radio Room (CSRR) RDT&E Articles Quantity FY03 ACCOMPLISHMENTS: Continued engand 3. FY04: Complete engineering and integration	nset of corona breakdown which will prosmits applications. Begin investigation on a monitoring/sensing system capability long term operation in high electromagn FY 03 0.925 gineering, integration and test for CSRR of SSBN variant of CSRR.	rvide a heightened protect methods for providing add by for FVLF sites. Complete icticfields. FY 04 0.950 architecture and compo	te investigation on helix hou FY 05 0.950 nent upgrades and complete	nance margin for helix	house exit bushings and insulators. Begin the
FY04: Complete testing of system to detect or of electrically small antennas for VLF/LF transguy/top hat insulators. FY05: Complete development of remote cordinvestigation into new materials for sustained Common Submarine Radio Room (CSRR) RDT&E Articles Quantity FY03 ACCOMPLISHMENTS: Continued engand 3. FY04: Complete engineering and integration	nset of corona breakdown which will prosmits applications. Begin investigation of smits applications. Begin investigation of smits applications. Begin investigation of smits application in high electromagn of term operation in high electromagn of smits of	rivide a heightened protect methods for providing add by for FVLF sites. Complete telectric fields. FY 04 0.950 architecture and composite duct operational assessr	te investigation on helix hou FY 05 0.950 nent upgrades and completenent.	nance margin for helix	house exit bushings and insulators. Begin the

R-1 SHOPPING LIST - Item No.

FY05: Continue SCAP, conduct CEP and strategic connectivity threats, and perform analysis. Extend analysis to cover VLF shore conectivity paths and MILSTAR monitoring.

FY03 ACCOMPLISHMENTS: Continued SCAP, conducted CEP and strategic connectivity threats, and performed analysis.

FY04: Continue SCAP, conduct CEP and strategic connectivity threats, and perform analysis.

CLASSIFICATION:

				February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME	PROJECT NUMBER AND	NAME
DT&E, N /BA-7	0204163N Fleet Communications	S	1083 Shore to Ship Comr	nunications Systems
) B. Accomplishments/Planned Program				
B. Accomplishments/Planned Program	FY 03	FY 04	FY 05	
B. Accomplishments/Planned Program Shore Internet Protocol	FY 03 0.700	FY 04 0.000	FY 05 0.000	

	FY 03	FY 04	FY 05	
Concept Development/Systems Planning	0.375	0.916	1.262	
RDT&F Articles Quantity				

FY03 ACCOMPLISHMENTS: Continued design concept and initial feasible studies for integrated FVLF dynamic control system.

FY04: Complete design concept and initial feasible studies for integrated FVLF dynamic control system. Begin development of methods to provide the operational flexibility of dynamic allocation of the Fixed Submarine Broadcast System (FSBS) bandwidth.

FY05: Continue development of dynamic allocation capability of the FSBS bandwidth. Begin development of coding and compression necessary to significantly increase the equivalent data throughput. Demonstrate concept on the air.

	FY 03	FY 04	FY 05	
SUBOPAUTH	0.000	1.659	2.768	
RDT&E Articles Quantity				

FY04: Develop architecture to ensure automated SUBOPAUTH back-up strategy to support Continuity of Operations (COOP).

FY05: Develop automated toolsets to facilitate ease in manning burden to support operational and broadcast control for submarines.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

RDT&E Articles Quantity

	February 2004
	-
DTOE N. /DA 7	
DT&E, N /BA-7 0204163N Fleet Communications 1083 Shore to Ship Communications Systems	3
B. Accomplishments/Planned Program	
FY 03 FY 04 FY 05	
EAM 2010 0.000 4.173 4.660	
RDT&E Articles Quantity	
FY04: Conduct an end-to-end assessment necessary to support the baseline of the current system and support the Analysis of Alternatives and Initial Capabifuture capabilities. FY05: Implement life extension actions identified in the end-to-end assessment. Develop computer modeling and simulations. Initiate the acquisition program EAM 2010 Analysis of Alternatives. Initiate the development of the prototype.	, , ,
future capabilities. FY05: Implement life extension actions identified in the end-to-end assessment. Develop computer modeling and simulations. Initiate the acquisition program	, , ,

FY05: Shore site development and integration of a VLF transmit terminal with elements common with terminals planned for the E-6B Airborne Command Post (ABNCP).

	FY 03	FY 04	FY 05	
VLF Channel Modes	0.000	0.000	1.492	
RDT&E Articles Quantity				

FY05: Develop architecture to support implementation of a unified mode in the VLF transmit terminal common to Navy and Air Force applications.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justification					DATE: February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	R AND NAME		PROJECT NUMBER AND N	
DT&E, N / BA-7	0204163N Fleet Communication	s		1083 Shore to Ship Comn	nunications Systems
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2003	FY 2004	FY 2005		
FY04 President's Budget:	6.539	12.386	17.334		
FY05 President's Budget	6.270	12.218	17.704		
Total Adjustments	-0.269	-0.168	0.370		
Summary of Adjustments					
Issue 68849 FY 2003 Update	-0.156				
Issue 66556 FY03 SBIR	-0.113				
Issue 68041 Section 8094: Manage	ement Improvements	-0.033			
Issue 68066 Sec. 8126: Efficiencie		-0.105			
Issue 66961 SPAWAR Service Co.	st Center Adjustments	-0.030	-0.050		
Issue 69025 WCF - R&D SPAWAI	R - PBD 430		-0.019		
Issue 69045 PBD 426 Rates - S	SSC		0.047		
Issue 69389 NET ZERO Negative	Fixes for RDTEN		-0.001		
Issue 69492 PBD604 Inflation			-0.047		
Issue 69512 PBD604 non purchas			-0.01		
Issue 69650 P07 Technical Adjustr	nents		-0.008		
Issue 19000 N61 HQ Support Issue 19014 Technical Issue: Fund	IVIE & MILSTAD CED		-0.027 0.525		
Issue 67767 NWCF Rates - SPAW			-0.039		
Issue 67760 NWCF Rates - NUWC			-0.004		
Miscellaneous Navy Adjustments			0.003		
Subtotal	-0.269	-0.168	0.370		

(U) Schedule:

CSRR program Milestone C has slipped from 2nd QTR FY04 to 4th QTR FY04. Navy and DoD TEMP approval signatures have delayed proceeding to CSRR Milestone C.

(U) Technical: Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificati	on						DA	TE:
								February 2004
APPROPRIATION/BUDGET ACTIVITY		PROGRAM E	LEMENT NUM	IBER AND NAM	ИE	PROJECT NU	MBER AND NAM	E
RDT&E, N / BA-7		0204163N SI	nore to Ship Co	mmunications	Systems	1083 Shore	to Ship Communic	cations Systems
(U) D. OTHER PROGRAM FUNDING SU	MMARY:							To Total
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u> <u>Cost</u>
3107 Submarine Broadcast Support	3.687	16.449	17.802	13.211	13.314	18.513	18.729	Continuing Continuing

(U) E. ACQUISITION STRATEGY:

CSRR will integrate CNO N6 communication programs into the submarine radio rooms. The program has been designated as an ACAT III due to the radio room system level Operational Test requirement and the amount of funding required to execute the program. Each class variant (SSBN, SSGN, SSN) will require design integration and operational testing. The CSRR program is proceeding to a Milestone C decision in 4th Quarter FY04. The procurement of equipment will be accomplished by the established program offices; the integration of the equipment into the submarine environment will be conducted by the NAVSEA Undersea Warfare Center; and the installation will be accomplished by SPAWAR System Center, Charleston. VLF transmit terminal shall adapt a single channel airborne system to a multiple channel shore environment. The adaptation will maximize the use of Commercial Off The Shelf (COTS) and Non-Developmental Items (NDI) hardware and software. Procurement contract award will be based on full and open competition. EAM 2010 will develop an approach to use COTS and NDI components to extend operational life of the existing system and to establish a long term solution compatible with future Global Information Grid structures. The program plans MS-A in 2nd QTR FY06. Procurement contract award will be based on full and open competition. SUBOPAUTH is a phased Abbreviated Acquisition Program (AAP) using COTS and NDI.

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pa	ge 1)							Februa	ry 2004			
APPROPRIATION/BUDGET ACTIV	/ITY	PROGRAM E	LEMENT			PROJECT NU	JMBER AND	NAME				
RDT&E, N / BA-7		0204163N FI	eet Communica	ations		1083 Shore	to Ship Comr	munications Syst	tems			
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &		FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	Various	Various	3.900	0.481	12/02	1.862	12/03	3.778	11/04	Continuing	Continuing	1
Ancillary Hardware Development											0.000	
Systems Engineering	CPFF	APL/JHU, Baltimore, MD	20.752	0.346	12/02	0.498	12/03	1.060	12/04	Continuing	Continuing	1
Systems Engineering	WR	SSC San Diego, CA	33.458	0.435	N/A	0.285	N/A	3.027	N/A	Continuing	Continuing	1
Systems Engineering	WR	Misc. Labs, NUWC, RI	8.051	0.225	11/02	0.900	11/03	0.824	11/04	Continuing	Continuing	1
Systems Engineering	WR	US Army, Monmouth, NJ	4.210	0.000	N/A	0.250	11/03	0.247	11/04	Continuing	Continuing	1
Systems Engineering	Various	Various	0.290								0.290	
Systems Engineering	CPFF	Rockwell, Richardson, TX	15.864	0.000	N/A	0.000	N/A	0.000	N/A		15.864	
Systems Engineering											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			86.525	1.487		3.795		8.936		Continuing	Continuing	1

Remarks:

Development Support											0.000	
Software Development	WR	SSC San Diego, CA	3.000	1.767	11/02	1.603	11/03	2.734	11/04	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	Various	Various				2.600					2.600	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			3.000	1.767		4.203		2.734		Continuing	Continuing	

Remarks:

CLASSIFICATION:

								1				
Exhibit R-3 Cost Analysis (pag	ne 2)							DATE:		February 200	04	
APPROPRIATION/BUDGET ACTIVI		PROGRAM I	ELEMENT			PROJECT NU	IMBED AND I	I NAME		1 ebidary 200	/	
RDT&E, N / BA-7	/ I T		ELEIVIEINI Fleet Communic	ations				nunications Syst	eme			
Cost Categories	Contract	Performing	Total	1	FY 03	1000 011010	FY 04		FY 05		T	T
Cost Categories	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation											0.000)
Operational Test & Evaluation											0.000)
Strategic OP Systems Perf Evaluation	CPFF	APL/JHU, Baltimore, MD	4.100	2.100	12/02	2.400	12/03	3.950	12/04	Continuing	Continuing	3
Systems Testing	Various	Various	2.445	0.682	11/02	1.064	11/03	1.117	11/04	Continuing	Continuing	3
Tooling											0.000)
GFE											0.000)
Award Fees											0.000)
Subtotal T&E			6.545	2.782		3.464		5.067		Continuing	Continuing	3
Contractor Engineering Support	WR	US Army, Monmouth, NJ				0.492	11/03	0.452	11/04	Continuing	Continuing	9
Government Engineering Support	WR	Various				0.135	11/03	0.325	11/04	Continuing	Continuing	3
Program Management Support	Various	Various	3.829	0.234	11/02	0.129	11/03	0.190	11/04	Continuing	Continuing	3
Travel											0.000	J
Transportation											0.000	J
SBIR Assessment											0.000	J
Subtotal Management			3.829	0.234	,	0.756	6	0.967		Continuing	Continuing	3
Remarks:												
Total Cost			99.899	6.270	,	12.218	3	17.704		Continuing	Continuing	9
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile																								DATE	:	F	ebrua	ary 20	04		
APPROPRIATION/BUDGE	T ACTIVI	TY							PRO	GRAM	ELEM	ENT N	NUMBE	R ANI	O NAM	ΙE					PROJ	ECT N	UMBE	R AN	D NAM	1E						
RDT&E, N /	BA-7	,							0204	163N I	Fleet C	Commi	unicatio	ons							1083	Shore	e to Sh	nip Cor	mmuni	cation	s Syste	ems -	CSRR			
Fiscal Year		20	02			20	03			20	04			20	05			20	006			200)7			20	08			200)9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones											MS C									7	ioc											FOC
Test & Evaluation Milestones Development Test - SSBN Operational Assessment OPEVAL SSBN												D/T S	SBN			OA	3.20		OPEVAL	_ SSBN												

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	EMENT			PROJECT NU	MBER AND NA	ME	
RDT&BA-7		eet Communica	tions			to Ship Commu		ems
Schedule Profile - CSRR	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone C			4Q					
Milestone C Operational Assessment			1 0	4Q				
Development Test (D/T)			4Q	1Q - 3Q				
OPEVAL SSBN					4Q			
IOC					4Q			
		<u>I</u> PPING LIST		<u>1</u> 168	1			

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE		Fe	ebrua	ry 20	04		
APPROPRIATION/BUDGET									PROC						NAM	E									D NAN							
RDT&E, N /	BA-7								02041	163N F	Fleet C	Commi	unicatio	ons							1083	Shor	e to Si	hip Co	mmuni	cation	s Syste	ems SI	JBOP/	AUTH		
Fiscal Year		20	002			20	03			20	04			200	05			20	006			20	07			20	80			200)9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
AAP Designation												7	ioc							FOC												
Software Development *																																
Prototype																									ı							
Test & Evaluation Milestones																																
DT/OT																																
																																_
Production Milestones																																
Shore Master Reference System									Procu	ıre (4)	Insta	all (4)	Ì																			
Sub Message Gateway (SMG (Broadcast Control Authority)									Procu	ıre (1)			Procu					ure (2)													
SMG (Broadcast Keying Sites)										Procu	re (2)			Insta Procu Insta	re (5)			Insta	all (2)													
Deliveries											4		3	iiisid	(1)	↓ 7	,			2												

^{*} Development of tool sets for efficiency. Hardware procured in 310700

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						į į	February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&BA-7	0204163N Fle	et Communica	tions		1083 Shore	to Ship Commu	inications Syste	ems
Schedule Profile - SUBOPAUTH	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 200
AAP Designation			1Q					
Software Development			1Q-4Q	1Q-4Q	1Q-2Q			
IOC			4Q					
SMRS Procure			1Q-2Q					
SMRS Install			3Q-4Q					
SMG Procure			1Q-4Q	1Q-4Q	1Q-4Q			
SMG Install				1Q-4Q	1Q-4Q			
Development Test/Operational Test			3Q-4Q	1Q-4Q	1Q-4Q			
FOC					4Q			

R-1 SHOPPING LIST - Item No.
UNCLASSIFIED

Exhibit R-4a, Schedule Detail (Exhibit R-4a, page 31 of 47)

CLASSIFICATION:

EXHIBIT R4, Schedule																										DATE F (ebru	ary 20	004				
APPROPRIATION/BUDGE	T ACTIV												IENT N			D NAM	ΙE							NUMBE re to SI				00 Cv0	omo l		0040		
RDT&E, N /	DA-									0204			Commu	inicatio								1003			nip Co	mmur			ems -	EAIVI 2			
Fiscal Year		20	002				200	03		2004 2005 2006								006			20	007			2	800			200	09			
	1	2	3	3 4	1	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																			MS-A					MS-B							MS-C		
Prototype Phase																				Prototyp	e Phas	е											
Test & Evaluation Milestones																																	
Development Test)T		1				
Operational Test																														OT&E			
Production Milestones																																	
FRP																																FRP (1)
Deliveries																																	

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	ebruary 20	 04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	EMENT			PROJECT NU	MBER AND NA	ME	
RDT&BA-7	0204163N Fle	et Communica	tions		1083 Shore	to Ship Commu	nications Syste	ems
Schedule Profile - EAM 2010	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006		FY 2008	FY 2009
Milestone A					2Q			
Prototype Phase					1Q - 4Q	1Q - 3Q		
Milestone B						3Q		
Development Test (DT&E)						4Q	1Q - 3Q	
Operational Test							4Q	1Q - 2Q
Milestone C								2Q
FRP								3Q - 4Q
				100				<u> </u>

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R4, Schedule P																									DATE F e	ebrua	ry 20	04				
APPROPRIATION/BUDGET A RDT&E, N /	ACTIVI	ITY			BA-7	,			PROC 02041						O NAM	ΙE							NUMBE				e Svet	ems - V	/ E Tr	anemit	Torm	ninal
		20	002		DA-1	20	03		02041	20		Ommu	nicauc	200	05			20	006		1003	20		пр Со	IIIIIuii		os Syst	31115 - V	/LF 11	200		IIIai
Fiscal Year	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
														_														IOC		_		<u> </u>
AAP Designation															\triangle													\searrow				
Collaborative Design Definition																																
Integration/Modification]											
Test & Evaluation Milestones																																
Development Test Operational Test																				DT	&E						 					
Production Milestones																																
Procure																						Procu	ure (6)			Procu	ure (6)	버		Procur	e (12)	
Install																										Insta	all (6)			Insta	II (6)	
																											(5)			o.ta	(3)	
Deliveries																									6				6			

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND NA	ME	
RDT&BA-7	0204163N Fle	eet Communicat	tions		1083 Shore	to Ship Commu	nications Syste	ems
Schedule Profile - VLF Transmit Terminal	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006		FY 2008	FY 2009
Collaborative Design Definition				1Q-4Q	1Q			
AAP Designation Integration/Modification Development Test				3Q				
Integration/Modification					1Q-4Q			
Development Test					3Q-4Q			
Procure						1Q-4Q	1Q-4Q	1Q-4Q
Operational Test							1Q-2Q	1Q-4Q
IÓC							2Q	
Install							1Q-4Q	1Q-4Q
				400				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
-									Octo	ber 2003	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	EMENT NUM	BER AND NAM	E	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0204163N F	LEET COMMU	NICATION			0795 Support	t of MEECN				
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program
Project Cost	6.0	1.0	0.8	0.0	0.0	0.0	0.0	0.0			7.760
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

MEECN is a non-acquisition program which develops methods of strategic communications from the Commander in Chief to the Strategic Forces in compliance with the Joint Staff Nuclear Technical Performance Criteria (NTPC). The MEECN requirements cover delivery of Emergency Action Messages (EAMs) from the Commander-in-Chief to Nuclear weapons execution platforms (SSBN, B-52 bombers and fixed site Launch Control Centers) over survivable communication paths. The MEECN accomplishes this by designing, developing, testing new MEECN communication mode designs. The modes are designed to provide assured delivery in hostile RF environments within the required delivery time to execute nuclear orders. The MEECN develops the communications modes based on current state of the art in communications and coding theory and adaptive signal processing. The products delivered by the MEECN consist of a Mode Standard. This Standard includes the following: System Requirements, Software Requirements, Software Design, executable software code, Test Description and Test procedures. This Mode Standard package is provided to individual STRATCOM system implementers (both Navy and Air Force) for implementation in various Strategic Communications transmitters and receivers. After delivery of the Mode Standard to implementers, the MEECN provides engineering expertise to facilitate implementation and testing on operational equipments.

There is a current STRATCOM requirement to develop a follow-on mode to the current operational mode set known as HIDAR-plus. The HIDAR-plus will replace a set of modes with a single mode that increases robustness to better meet delivery requirements and to greatly reduce the overall delivery time of the mode sequence currently in operation. Another key factor is to provide a mode with a single baud rate that meets requirements as defined in the Joint Staff Nuclear Technical Performance Criteria. One of the transmit platforms is an E-6B aircraft. The aircraft must conduct a tight orbit with several miles of antenna hanging down while transmitting multiple baud rates. This creates strain on the power amplifier system and extreme wear and tear on the aircraft. The HIDAR-plus mode will be designed to greatly reduce the overall time that is required for the aircraft to fly in tight orbit formation to transmit messages. The introduction of HIDAR-plus will lead to greatly reduced wear and tear and will extend the life of the power amplifier system and the E-6B airframe.

The MEECN budget beginning in FY05-FY09 has been zeroed. The FY04 funding will be utilized to preserve all previous mode development research into a single design document to capture all the Strategic Communications research conducted under the MEECN. This document will provide the Joint Staff with a preliminary design detailing the obtainable performance characteristics of HIDAR-plus necessary for planning future long term EAM distribution requirements.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificat	tion			DATE:	February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMB	BER AND NAME	PROJECT NUMBER AND	NAME	repruary 2004
DT&E, N /BA-7	0204163N FLEET COMMUI		0795 Support of MEECN		
) B. Accomplishments/Planned Program			1		
	5V 00	EV.04	5)/05	1	
Accomplishments/Effort/Subtotal Cost	FY 03 0.999	FY 04 0.787	FY 05 0.000		
RDT&E Articles Quantity	0.999	0.767	0.000		
TE TOE THOOSE GUARANT					
FY04: Consolidate all previous mode developr the Joint Staff with a preliminary design detailing				search conducted u	nder the MEECN and to provide
				search conducted u	nder the MEECN and to provide
the Joint Staff with a preliminary design detailing				search conducted u	nder the MEECN and to provide
the Joint Staff with a preliminary design detailing the Joint Staff with a preliminary design detail with the Joint Staff				search conducted u	nder the MEECN and to provide
the Joint Staff with a preliminary design detailing				search conducted u	nder the MEECN and to provide
the Joint Staff with a preliminary design detailing the Joint Staff with a preliminary design detail with the Joint Staff				search conducted u	nder the MEECN and to provide
the Joint Staff with a preliminary design detailing the Joint Staff with a preliminary design detail with the Joint Staff				search conducted u	nder the MEECN and to provide
the Joint Staff with a preliminary design detailing the Joint Staff with a preliminary design des				search conducted u	nder the MEECN and to provide
the Joint Staff with a preliminary design detailing the Joint Staff with a preliminary design detail with the Joint Staff				search conducted u	nder the MEECN and to provide

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBE			PROJECT NUMBER AND NAME	
RDT&E, N /BA-7	0204163N FLEET COMMUNI	CATION	0	795 Support of MEECN	
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2003	FY 2004	FY 2005		
FY04 President's Budget:	1.031	0.827	0.727		
FY05 President's Budget	0.999	0.787	0.000		
Total Adjustments	-0.032	-0.040	-0.727		
Summary of Adjustments					
Issue 68849 FY 2003 Update	-0.016				
Issue 66556 FY03 SBIR 5 May 03	-0.016				
Issue 68060 FFRDC Reduction		-0.031			
Issue 68041 Section 8094: Mgmt. Im	provements	-0.002			
Issue 68066 Sec 8126: Efficiencies/R	evised Econ. Assump	-0.007			
Issue 19000 N61 HQ Support			-0.042		
Issue 66777 Sea Enterprise (LOE II)			-0.685		
Subtotal	-0.032	-0.040	-0.727		
(U) Schedule:					
Not Applicable					
(U) Technical:					
Not Applicable					
••					
	D 4 0110B	DING LIST - I		168	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM E	LEMENT NUM	IBER AND NAI	ME	PROJECT NU	JMBER AND N	IAME			
RDT&E, N /BA-7		0204163N F	LEET COMM	UNICATION		0795 Suppor	t of MEECN				
(U) D. OTHER PROGRAM FUNDING SUMMARY:									То	Total	
Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost	
Not Applicable											
(U) E. ACQUISITION STRATEGY:											
Not Applicable											

CLASSIFICATION:

					DATE:				
						February 200)4		
IT			PROJECT NU		AME				
COMMUNIC	ICATION		0795 Suppor						
		FY 03		FY 04		FY 05			
Cos	Y 03	Award Date	FY 04 Cost	Award Date		Award Date	Cost to Complete	Total Cost	Target Value of Contract
COS	051	Date	Cost	Date	Cost	Date	Complete	0.000	
								0.000	
								0.000	
								0.000	
								0.000	
-+								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
0.000	0.000		0.000		0.000		0.000		
								0.000	
2.178	0.345	11/02	0.563	11/03				3.086	
								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
2.178	0.345		0.563		0.000		0.000	3.086	
_	I SHOPP	I SHOPPING LIST -	I SHOPPING LIST - Item No.	I SHOPPING LIST - Item No. 168					

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (page	ge 2)									February 200)4	
APPROPRIATION/BUDGET ACTIV		PROGRAM	ELEMENT			PROJECT NU	IMBER AND	NAME				
RDT&E, N / BA-7			FLEET COMMU	JNICATION		0795 Suppor						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	0.270								0.270)
Operational Test & Evaluation	Various		0.221								0.221	1
Live Fire Test & Evaluation											0.000)
Test Assets											0.000)
Tooling											0.000)
GFE											0.000)
Award Fees											0.000)
Subtotal T&E			0.491	0.000		0.000		0.00	00	0.000	0.491	1
		,		1								
Contractor Engineering Support	WR	US Army, Monmouth, NJ	2.490	0.584	11/02	0.084	11/03				3.158	
Government Engineering Support		SSC San Diego, CA	0.498	•		0.125	11/03				0.681	
Program Management Support		SSC San Diego, CA	0.317	0.012	11/02	0.015	11/03				0.344	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			3.305	0.654		0.224		0.00	00	0.000	4.183	<u>i</u>
Remarks:												
Total Cost			5.974	0.999		0.787		0.00	00	0.000	7.760)
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Pro																									DATE		F	ebrua	ry 20	04		
APPROPRIATION/BUDGET ACT RDT&E, N /	TIVITY BA-7				1					GRAM 163N I					D NAM	1E	,				PROJ 0795	ECT N Supp				ΙE						
Fiscal Year		20	02			20	03			20	04			20	05			20	006			200	07			20	08			200	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MEECN - NON-Acquisition Program																																
HIDAR-Plus Requirements and Design Description Documents																																
Deliveries																	tem N		168													

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY RDT&BA-7	PROGRAM EI 0204163N F	EMENT LEET COMMU	NICATION		PROJECT NU 0795 Suppor	MBER AND NA	ME	-
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
HIDAR-Plus Requirements and Design Description Documents			1Q-4Q					
					†			
					+			
					+			
	1				+			
	1				1			
		PPING LIST		168				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
			Febr	uary 2004							
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	LEMENT NUME	BER AND NAM	IE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0204163N F	LEET COMMU	INICATION			9421 Joint Inte	grated System	s Technology f	or Advanced N	Network Systems (JIS	ST-NET)
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program
Project Cost			6.9								6.9
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Integrated System Technology for Advanced Networking Systems (JIST-NET) project is an ongoing effort to integrate, develop, and support Military SATCOM multi-spectrum communications planning, management, and control capabilities that interface with many mono-spectral planning and management tools and with advanced planning tools. This project has extremely high visibility within the DoD and United States Congress. The project was moved to PEO C4I & Space, PMW 176 from the United States Air Force starting in FY04 to better meet the requirements, deadlines, and funding priorities established for the project.

Congressional add to define requirements and interface/integrate existing and newly developed SATCOM mission management capabilities into the JIST-NET project.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificati	on			DATE:
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMB	BER AND NAME	PROJECT NUMBER AND	NAME
RDT&E, N /BA-7	0204163N Shore to Ship Cor	mmunications Systems	9421 Joint Integrated Syst	tems Technology for Advanced Network Systems (JIST-NET)
(U) B. Accomplishments/Planned Program				
			1	¬
A	FY 03	FY 04	FY 05	<u> </u>
Accomplishments/Effort/Subtotal Cost		6.923		-
RDT&E Articles Quantity				
FY04: Congressional add to define requireme	nts and interface/integrate existing a	and newly developed SAT	COM mission management o	canabilities into the JIST NET project. The
contractor will update the JIST-NET Software D				
contractor will update the JIST-NET Software L	resign for the next 3151-INET prototy	pe using the results of the	Software Requirements Ana	ayses.
	FY 03	FV 04	EV 05	\neg
Accomplishments/Effort/Subtotal Cost	F1 03	FY 04	FY 05	_
RDT&E Articles Quantity				\dashv
TOTAL Attoles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY F	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NAME
	204163N Shore to Ship Commun			9421 Joint Integrated Systems Technology for Advanced Network Systems (JIST-NET)
NDTGE, N TBA-T	2204 10314 Shore to Ship Commu	ilcations Syste	1113	3421 John Integrated Systems Technology for Advanced Network Systems (JIST-NET)
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2003	FY 2004	FY 2005	
FY04 President's Budget:		0.000		
FY05 President's Budget:		6.923		
Total Adjustments	0.000	6.923	0.000	•
Summary of Adjustments				
Issue 68559 Joint Integrated Systems Technology		7.000		
Issue 68041 Sec. 8094: Management Improvements		-0.018		
Issue 68066 Sec. 8126: Efficiencies/Revised Econ. Ass	sumptions	-0.059		
Subtotal	0.000	6.923	0.000	
(U) Schedule:				
Not Applicable				
(U) Technical:				
Not Applicable				
	D_1 SH∩DDI	NO LIGHT II	NI.	168

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Februa	ary 2004	
APPROPRIATION/BUDGET ACTIVITY				IBER AND NAI	ME	PROJECT NU					
RDT&E, N /BA-7		0204163N F	LEET COMM	UNICATION		9421 Joint Int	egrated Syster	ns Technology	for Advanced Ne	etwork Systems (JIST-NET	Γ)
(U) D. OTHER PROGRAM FUNDING SUMMARY:									То	Total	
Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost	
Not Applicable											
(U) E. ACQUISITION STRATEGY:											
Not Applicable											

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
						Februar	y 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	CLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY	/ BA-7			0204229N Tomaha	awk Weapons Sys	tem (TWS)	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	97.284	76.524	28.776	18.262	13.409	13.067	13.328
A0545 Tomahawk	97.284	76.524	28.776	18.262	13.409	13.067	13.328

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Tomahawk Weapons System (TWS) provides the Tomahawk cruise missile attack capability against targets on land (Tomahawk Land Attack Missile (TLAM)). The TLAM can be fitted with either Conventional unitary warhead (TLAM/C), nuclear warhead (TLAM/N) or submunition dispenser (TLAM/D). This program ensures that the TWS exploits state-of-the-art technology to preserve the efficiency of this proven weapon system, and includes all missile development, mission planning system development, and submarine and surface ship weapons control system development:

The Tactical Tomahawk (TACTOM) All-Up-Round missile development is a comprehensive baseline upgrade to the TWS that provides the tactical commander a quick reaction response capability as well as improved flexibility, accuracy, and lethality. The essential elements of TACTOM are upgrades to the guidance, navigation, control, and mission computer systems of the missile along with the associated Command and Control (C2) systems and weapons control systems upgrades. TACTOM will provide a UHF Satcom data link to enable the missile to receive in-flight mission modification messages, to transfer health and status messages, and to broadcast Battle Damage Indication (BDI) messages. TACTOM also includes a high anti-jam GPS receiver, navigation improvements and associated antenna systems. The Tomahawk program (A0545) also includes development of Torpedo Tube Launch (TTL) capability for submarines and Roadmap studies for warhead improvement.

The Tomahawk Command and Control System (TC2S) Theater Mission Planning Center (TMPC) and Afloat Planning System (APS) (a shipboard version of TMPC) provide mission planning and employment support information for both the nuclear (TMPC only) and conventional TLAM, including the distribution of mission data and command information essential to TLAM employment via the Mission Distribution System (MDS) and associated communications infrastructure. Development of Tactical Tomahawk capabilities in TMPC/APS/MDS includes software development, integration, test, and delivery, including support for TECHEVAL and OPEVAL, training development, installation planning, and simulation/model development required by COMOPTEVFOR to offset live missile flights in TECHEVAL and OPEVAL. This project also includes development related to national and tactical imagery architectures, as well as software development to decrease mission planning time and increase the quality and accuracy of each mission for Block III and IV TLAM.

The Tomahawk Weapons Control System provides launch capability for surface and submarine platforms. Development of the Tactical Tomahawk Weapons Control System (TTWCS) provides a common architecture to launch the Tactical Tomahawk and all variants in inventory. These efforts provide battle-group tactical flexibility and responsiveness while maximizing TWS wartime capability. TTWCS entered Engineering and Manufacturing Development (EMD) in FY99, with Phase A IOC (BLK III) in DEC 03, and Phase B IOC (TACTOM) planned to coincide with the AUR IOC in FY 2004.

R-1 SHOPPING LIST - Item No. 169

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 11)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificat	tion						DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEME	NT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0204229N Tomahav	wk Weapons Syste	em (TWS)		A0545 TOMAHA\	ΝK		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		97.284	76.524	28.776	18.262	13.409	13.067	13.328
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Tomahawk Weapons System (TWS) provides the Tomahawk cruise missile attack capability against targets on land (Tomahawk Land Attack Missile (TLAM)). The TLAM can be fitted with either Conventional unitary warhead (TLAM/C), nuclear warhead (TLAM/N) or submunition dispenser (TLAM/D). This program ensures that the TWS exploits state-of-the-art technology to preserve the efficiency of this proven weapon system, and includes all missile development, mission planning system development, and submarine and surface ship weapons control system development:

The Tactical Tomahawk (TACTOM) All-Up-Round missile development is a comprehensive baseline upgrade to the TWS that provides the tactical commander a quick reaction response capability as well as improved flexibility, accuracy, and lethality. The essential elements of TACTOM are upgrades to the guidance, navigation, control, and mission computer systems of the missile along with the associated Command and Control (C2) systems and weapons control systems upgrades. TACTOM will provide a UHF Satcom data link to enable the missile to receive in-flight mission modification messages, to transfer health and status messages, and to broadcast Battle Damage Indication (BDI) messages. TACTOM also includes a high anti-jam GPS receiver, navigation improvements and associated antenna systems. The Tomahawk program (A0545) also includes development of Torpedo Tube Launch (TTL) capability for submarines and Roadmap studies for warhead improvement.

The Tomahawk Command and Control System (TC2S) Theater Mission Planning Center (TMPC) and Afloat Planning System (APS) (a shipboard version of TMPC) provide mission planning and employment support information for both the nuclear (TMPC only) and conventional TLAM, including the distribution of mission data and command information essential to TLAM employment via the Mission Distribution System (MDS) and associated communications infrastructure. Development of Tactical Tomahawk capabilities in TMPC/APS/MDS includes software development, integration, test, and delivery, including support for TECHEVAL and OPEVAL, training development, installation planning, and simulation/model development required by COMOPTEVFOR to offset live missile flights in TECHEVAL and OPEVAL. This project also includes development related to national and tactical imagery architectures, as well as software development to decrease mission planning time and increase the quality and accuracy of each mission for Block III and IV TLAM.

The Tomahawk Weapons Control System provides launch capability for surface and submarine platforms. Development of the Tactical Tomahawk Weapons Control System (TTWCS) provides a common architecture to launch the Tactical Tomahawk and all variants in inventory. These efforts provide battle-group tactical flexibility and responsiveness while maximizing TWS wartime capability. TTWCS entered Engineering and Manufacturing Development (EMD) in FY99, with Phase A IOC (BLK III) in DEC 03, and Phase B IOC (TACTOM) planned to coincide with the AUR IOC in FY 2004.

R-1 SHOPPING LIST - Item No. 169

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 2 of 11)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N / BA-7	0204229N Tomahawk Weapons System (TWS)	A0545 TOMAHAWK		
<u> </u>				

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Tactical Tomahawk All Up Round/Subtotal Cost	55.626	40.364	16.487
RDT&E Articles Quantity			

Sucessfully completed second Tactical Tomahawk contractor flight test (DT-1). All performance parameters met or exceeded. Initiated government flight testing and successfully conducted four government TECHEVAL flights. Completed TECHEVAL. Initiated hardware/software design and integration of Tactical Tomahawk Torpedo-Tube Launch (TT-TTL) capability. Complete Government flight testing. Complete OPEVAL and IOC for Tactical Tomahawk.

Continue hardware / software design and integration of Tactical Tomahawk Torpedo-Tube Launch (TT-TTL) capability. Conduct flight tests of TT-TTL. Initiate TACTOM Preplanned Product Improvement.

	FY 03	FY 04	FY 05
TACTOM Command and Control/Subtotal Cost	24.057	10.578	5.362
RDT&E Articles Quantity			

Continue the incorporation of new capabilities in Tomahawk Command and Control systems necessary for the employment of Tactical Tomahawk, supported Tactical Tomahawk Weapon System TECHEVAL, and continued development of related training and installation materials.

Continue development of new capabilities in Tomahawk Command and Control systems necessary for the employment of Tactical Tomahawk, support Tactical Tomahawk Weapon System OPEVAL, and complete development of related training and installation materials.

Continue imagery upgrades to Tomahawk Command and Control Systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2004	
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	IBER AND NAME	PROJECT NUMBER AND N		
T&E, N / BA-7	0204229N Tomahawk Weap	oons System (TWS)	A0545 TOMAHAWK		
B. Accomplishments/Planned Program			<u> </u>		
		F)/ 00	5,404	5)(05	
TACTOM Washing Control System (System)	-	FY 03	FY 04	FY 05	
TACTOM Weapons Control System/Subtotal Cost RDT&E Articles Quantity	-	12.263	12.243	6.927	
Completed OPEVAL for Phase 1A of Weapons Contr Initiate TECHEVAL/OPEVAL for Phase 1B. Complete	e Phase 1B Land Based and S	Sea Based System Testir	ng of Weapons Control System. (Complete TECHEVAL/OPEVAL. Initiate	
development of Integrated Training Architecture for T				-1	
Continue development of Tactical Tomahawk Weapo	ns System integrated i raining	J Architecture, continue v	vith version 5 software developme	ent.	
		FY 03	FY 04	FY 05	
Precision Terrain Aided Navigation/Subtotal Cost		5.338	5.640	0.000	
RDT&E Articles Quantity					
Completed demonstration prototype of Precision Terr					
Initiate PTAN advanced technology risk reduction effort	orts to develop next generation	n PTAN prototypes and t		na miccila cimulation lahe	
			o integrate PTAN capability into tr	ie missile simulation labs.	
			o integrate PTAN capability into tr	ie missile simulation labs.	
			o integrate PTAN capability into tr	te missile simulation labs.	
		FY 03	FY 04	FY 05	
Tactical Tomahawk Penetrator Capability/Subtotal Co					
Tactical Tomahawk Penetrator Capability/Subtotal Co		FY 03	FY 04	FY 05	
RDT&E Articles Quantity		FY 03 0.000	FY 04 7.699	FY 05	
		FY 03 0.000	FY 04 7.699	FY 05	
RDT&E Articles Quantity		FY 03 0.000	FY 04 7.699	FY 05	
RDT&E Articles Quantity		FY 03 0.000	FY 04 7.699	FY 05	
RDT&E Articles Quantity		FY 03 0.000	FY 04 7.699	FY 05	
RDT&E Articles Quantity		FY 03 0.000	FY 04 7.699	FY 05	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
						February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NA	ME	
RDT&E, N / BA-7	0204229N Tomahawk Weapons S	system (TWS)		A0545 TOMAHAWK		
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:	FY 2003	FY 2004	FY 2005			
Previous President's Budget:	97.448	71.385	36.143			
Current President's Budget	97.284	76.524	28.776			
Total Adjustments	-0.164	5.139	-7.367			
Summary of Adjustments						
SBIR/STTR Transfer	-2.043					
Reprogrammings	1.879					
Congressional Undistributed Adjust	stments	-0.861				
Congressional Increases		6.000				
Economic Assumptions			-0.146			
Reprioritization			-7.221			
Subtotal	-0.164	5.139	-7.367			

(U) Schedule:

Successful completion of the first of two contractor TACTOM flight tests occurred in August 2002 which initiated the LRIP 1 contract award October 3, 2002. Favorable Operational Assessment from OPTEVFOR initiated the LRIP 2 contract award January 2003. Final Systems qualification and integration completed in 3QFY03. The TACTOM development flight program experienced four successful flights (2 from a surface combatant and 2 from a submarine) including 2 Live Fire Test and Evaluation detonations, one from each platform. All Key Performance Parameters and technical objectives were met, and in many cases exceeded. Formal TECHEVAL report submitted. OPEVAL started December 1, 2003. TACTOM IOC scheduled for May 2004, coinciding with delivery of the first LRIP missile. Milestone III and Full Rate Production Award scheduled for June 2004.

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&I	E Project Justification							DATE:		
									Februar	y 2004
APPROPRIATION/BUDGE	ET ACTIVITY	PROGRAM EL	EMENT NUMB	ER AND NAM	E	PROJECT NUM	PROJECT NUMBER AND NAME			
RDT&E, N /	BA-7	0204229N Tom	ahawk Weapo	ns System (TV	/S)	A0545 TOMAHAWK				
(U) D. OTHER PRO	OGRAM FUNDING SUMMARY:									
Line Item No. & N	<u>Name</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>
WPN BLI 2101	00 Tomahawk	437.054	352.645	256.196	346.527	377.130	439.918	427.010	0.000	2636.480
	00 Surface Tomahawk pport Equipment	49.299	60.953	68.600	67.193	40.771	33.688	31.869	450.369	802.742
	05 Surface Tomahawk pport Equipment Installation	3.007	1.998	1.132	0.780	3.173	0.756	2.876		13.722
	00 Submarine Tomahawk pport Equipment	5.134	5.743	5.469	7.097	8.192	8.695	9.229	60.000	109.559
OPN Spares Bl	LI 902010 Initial Spares	0.624	0.620	0.862	0.617	0.622	0.000	0.000		3.345
	BLI 902090 Vendor Direct Spares E,N: Not Applicable	0.629	0.633	0.987	0.641	0.647	0.639	0.638		4.814

(U) E. ACQUISITION STRATEGY:

(U) D. ACQUISITION STRATEGY: In 1998, the Tomahawk Baseline Improvement Program (TBIP) transitioned to the Tactical Tomahawk program. This program is outlined in the Class Justification and Approval (CJ&A No AIR-22448) signed by the Under Secretary of the Navy on 29 May 1998. The acquisition strategy was to transition the Tomahawk Baseline Improvement Program (TBIP) to Tactical Tomahawk. The Tactical Tomahawk development program is a cost sharing contract between the Government and the Contractor to add capability to the missile. The department is pursuing a multi-year procurement contract for the full rate production years FY04 through FY08.

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pa	ae 1)									February 200	04	
APPROPRIATION/BUDGET ACTIV		PROGRAM E	LEMENT			PROJECT NU	IMBER AND	NAME				
RDT&E, N / BA-7		0204229N To	mahawk Weap	ons System (T\	VS)	A0545 TOMA	HAWK					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
Primary Hardware Development												
Tactical Tomahawk Program												
All Up Round	C/CPFF	Raytheon, Tucson, AZ	200.008	12.220	11/02	2.000	11/03				214.228	214.228
	C/FP	Honeywell, Minneapolis, MN		0.000		3.000	01/04	0.000			3.000	3.000
TTPV	SS/CPAF	Raytheon, Tucson, AZ		0.000		2.000	11/03				2.000	2.000
TTL	SS/CPAF	Raytheon, Tucson, AZ		0.905	11/02	10.651	11/03	1.782	11/04	15.456	28.794	28.794
Mission Planning System	SS/CPFF	ComGlobal, San Jose, CA	16.841	11.503	12/02	3.933	12/03	2.025	12/04		34.302	34.302
	SS/CPFF	Boeing, St. Louis, MO	0.650	2.175	12/02	2.103	12/03	0.000	12/04		4.928	4.928
	SS/CPFF	BAE Systems, San Diego, CA	0.929	0.640	12/02	0.480	12/03	0.327	12/04	0.273	2.649	2.649
Weapons Control System	C/CPAF	Lockheed, Valley Forge, PA	89.043	5.790	12/02	7.746	12/03	4.737	12/04	4.419	111.735	111.735
Ship Integration												
Launcher Integration	SS/CPAF	NAVSEA, Washington, DC	20.043	0.545	12/02	4.140	12/03	0.529	12/04	2.300	27.557	27.557
Systems Engineering												
All Up Round	C/FP	Raytheon, Tucson, AZ	9.000	3.491	11/02	2.569	11/03	0.470	11/04		15.530	15.530
	SS/CPFF	UARC APL, Laurel, MD	18.887	4.615	01/03	4.450	01/04	2.434	01/05		30.386	30.386
	C/FP	Boeing, St. Louis, MO	3.000								3.000	3.000
Weapons Control System	SS/CPFF	URAC APL, Laurel, MD	0.804	0.377	12/02	1.735	01/04	0.597	01/05	0.716	4.229	4.229
All Product Development Costs,												
1974 through TBIP Costs in 1998			2,176.447								2,176.447	2,176.44
Subtotal Product Development			2,535.652	42.261		44.807	1	12.901	1	23.164	2,658.785	

Remarks:

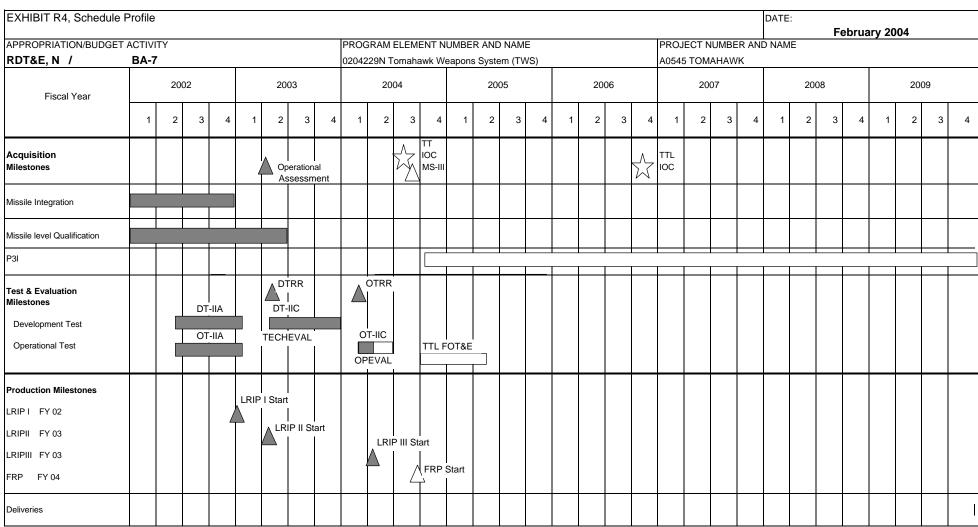
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page			Innoon Att	LEMENT			IDDO IDOT : "	MADED AND	1000		February 20	J4	
APPROPRIATION/BUDGET ACTIV	IIY		PROGRAM E		0 (7)	***	PROJECT NU		NAME				
RDT&E, N / BA-7 Cost Categories	Contract Method & Type	Performing Activity & Location	0204229N To	mahawk Weap Total PY s Cost		FY 03 Award Date	A0545 TOMA FY 04 Cost	FY 04 Award Date	FY 05	FY 05 Award Date	Cost to Complete	Total Cost	Target Value
Support (Development)	w . , po	2004		0001	0001	Date	0001	24.0	000.	Baio	Complete	0001	or contract
Development Support													
All-Up-Round	WR	NSWC, Dahlgre	n VA	10.765	0.816	11/02	0.820	11/03	1.086	11/04	Continuing	Continuing	
•	WR	NAWC-WD, Chi	ina Lake, CA	9.291	2.461	11/02	1.200	11/03	0.309	11/04	Continuing	Continuing	
	WR	NSWC, Pt Huer	neme, CA	3.476	0.411	11/02	0.283	11/03	0.085	11/04	Continuing	Continuing	
	WR	NAWC-AD, Pax	River, MD	4.177	0.802	11/02	0.632	11/03	0.312	11/04	Continuing	Continuing	
	WR	NWAD, Corona		1.278	0.000		0.000		0.077	11/04	Continuing	Continuing	
	WR	NUWC, Newpor	t, RI	4.481	0.631	11/02	2.931	11/03	1.294	11/04	Continuing	Continuing	
	SS/CPFF	SAIC, Arlington,	, VA	6.557	0.682	12/02	2.048	12/03	1.049	12/04		10.336	10.33
	WR	NSWC, Indian F	Head, MD	5.765	0.673	11/02	0.442	11/03	0.482	11/04	Continuing	Continuing	
	WR	NSWC, Cardero	ock, MD	1.263	0.460	11/02	0.100	11/03	0.000		Continuing	Continuing	
	C/CPFF	Honeywell, Minr	neapolis, MN	1.538	2.386	01/03	0.000		0.000			3.924	3.92
	Various	Various		16.161	0.403	04/03	0.487	12/03	0.074	12/04	Continuing	Continuing	
Weapons Control Systems	WR	NUWC, Newpor	t, RI	12.498	2.566	12/02	0.629	11/03	0.346		Continuing	Continuing	
Software Development													
Mission Planning Systems	SS/CPFF	Raytheon, Arling	gton, VA	5.100)							5.100	5.10
	SS/CPFF	Lockheed, Valle	y Forge, PA	2.015	1.929	12/02	2.180	12/03	1.548	12/04	1.530	9.202	9.20
	SS/CPFF	SAIC, Arlington,	, VA	8.492	4.675	12/02	1.280	12/03	0.000	12/04	0.679	15.126	15.12
	SS/CPFF	URAC APL, Lau	ırel, MD	8.546	4.246	12/02	2.429	01/04	1.514	01/05	2.965	19.700	19.70
Weapons Control Systems	WR	NSWC, Dahlgre	n VA	19.627	4.585	12/02	2.977	12/03	1.461	12/04	Continuing	Continuing	
				121.030	27.726		18.438		9.637		Continuing	Continuing	

CLASSIFICATION:

İ												
								DATE:				
Exhibit R-3 Cost Analysis (pa						Inno inot his		10045		February 200)4	
APPROPRIATION/BUDGET ACTIV	/II Y	PROGRAM E		0 . (7)	***		JMBER AND N	NAME				
RDT&E, N / BA-7 Cost Categories	Contract	Performing 0204229N 10	mahawk Weap Total	ons System (1)	WS) FY 03	A0545 TOMA	FY 04	1	FY 05	1	1	1
Cost Categories	Method	Activity &		FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	SS/CPFF	Raytheon, Tucson, AZ	23.457	17.296	11/02	6.356	11/03	1.946	11/04	3.834	52.889	1
	WR	COMOPTEVFOR, VA	2.233			0.434		0.125		Continuing		
	WR	NAWC, Pt Mugu Test Ctr, CA	12.360	7.270	11/02	4.000	11/03	2.841	11/04	Continuing	Continuing	
	WR	NOSC, San Diego CA	1.275	0.575	11/02						1.850	
	WR	NUWC, Newport RI	0.440	0.507	11/02	1.105	11/03	1.150	11/04	Continuing	Continuing	3
	SS/CPFF	URAC APL, Laurel MD	0.692	0.590	12/02	0.320	12/03	0.126	12/04		1.728	1.728
	WR	NSWC, Dahlgren, VA	0.807	0.454	11/02	0.672	11/03		11/04	Continuing	Continuing	1
	WR	NSWC, Port Hueneme				0.352	11/03				0.352	2
		Various	3.541	0.026	11/02	0.040	11/03	0.050	11/04	Continuing	Continuing	3
Subtotal T&E			44.805	27.297	•	13.279	9	6.238		Continuing	Continuing	
Management												
Subtotal Management			0.000	0.000	1	0.000		0.000		0.000	0.000)
Remarks:	•	,	, 21000	, 2.000		, 3,000		, 2,000		,	,	
Total Cost			2,701.487	97.284		76.524	ı	28.776		Continuing	Continuing	1
Remarks:												

UNCLASSIFIED



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Exhibit R-4a, Schedule Detail		DATE: February 2004						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&,N BA-7	0204229N To	mahawk Weap	ons System (T	WS)	A0545 TOMAI	HAWK		
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
All Up Round								
TT LRIP-One Contract Award		1Q						
System Qualification Complete		2Q						
Operational Assessment Complete		2Q						
Developmental Testing (DT-IIA)	2Q-4Q	1Q						
Devlopmental Testing (DT-IIC)		2Q-4Q						
TT LRIP-Two Contract Award		2Q						
Operational Testing (OT-IIC)			1Q-2Q					
TT LRIP-III Contract Award			2Q					
TT Initial Operational Capability			3Q					
TT Milestone III			3Q					
TT Full Rate Production Contract Award			3Q					
TT LRIP-One Delivery			3Q-4Q	1Q				
TT LRIP-Two Delivery				1Q-4Q				
TT TTL Initial Operational Capability					2Q			
TT Preplanned Product Improvement (P3I)			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
TT = Tactical Tomahawk								
TTL = Torpedo Tube Launch								
TIL - TOTPOGO TUDO LAUTION								
								
				+				

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:			
								Febru	ıary 2004	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NO	MENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALUATION,	NAVY /	BA-7			0204311N-Inte	egrated Surveil	lance Systems	i		
Prior								Total		
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
										ĺ
Total PE Cost	304.048	25.186	14.117	16.965	18.007	19.924	13.528	13.760	Continuing	Continuing
										1
Q0766-Integrated Surveillance Systems	224.154	16.833	9.903	13.138	14.060	16.309	9.842	10.002	Continuing	Continuing
Z0766 Fixed Surveillance Systems- Note 1	73.208	2.897	4.214	3.827	3.947	3.615	3.686	3.758	Continuing	Continuing
201001 Mad Garramana Systems 110to 1	10.200	2.001	11214	0.02.	0.047	0.0.0	0.000	0.700	Continuing	Jonananie
9102 IUSS Mission Planning	6.686	2.927	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.613
9270 Fiberoptic Wavelength Division Multiplier	0.000	2.529	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.529
										İ
Quantity of RDT&E Articles										0.000

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This Program Element (P.E.) comprises four projects - Q0766, Z0766, 9102 and 9270. Project Q0766 provides for Integrated Undersea Surveillance Systems (IUSS) Research and Development Projects. IUSS provides the Navy with its primary means of submarine detection both nuclear and diesel. The program has undergone a major transition from emphasis on maintaining a large dispersed surveillance force keyed to detection and tracking of submarines to a much smaller force that is effective against modern diesel and nuclear submarines in regional/littoral or broad ocean areas of interest. This transition preserves the ability to continue open ocean surveillance. Project Z0766 (FSS) is a classified project, with details available as a separate enclosure. Project 9102 is a Congressional Plus-Up that supports the development wideband optical networks for multiple platforms.

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

The IUSS Research and Development project (Q0766) funds SURTASS Passive and SURTASS Low Frequency Active (LFA) developments. SURTASS provides the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS LFA provides an active adjunct capability for IUSS passive and tactical sensors to assist in countering the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow quiet threats in harsh littoral waters.

(U) In order to continue with reductions in life cycle costs and continue with system-wide consolidation, a long-term goal is to develop a common IUSS processor based on NAVSEA'S Acoustic Rapid COTS Insertion (ARCI) program. The IUSS ARCI variant will have the capability to process and display data from future underwater systems. The IUSS ARCI variant will also have the capability to replace the legacy systems as they reach end of life and require upgrading. Additionally, a goal of SURTASS is to consolidate on the TB-29A/TL array, a variant of the Submarine TB-29A Long line array. This will reduce the number of array variants employed by SURTASS from 4 to 1, and will enable development and logistics cost savings by leveraging off the submarine TB-29A program. Future efforts will upgrade the LFA capability to ARCI processing and smaller, lighter weight acoustic sources for augmentation of small SWATH platforms, and for replacement of aging LFA sources.

Note 1- Details available at a higher classification.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:			
								Febru	uary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT N	UMBER AND NA	ME	PROJECT NU	IMBER AND N	AME			
RDT&E, N / BA-7	0204311N-Inte	egrated Surveillance Syst	ms		Q0766: IUSS	66: IUSS Detection and Classification System				
	Prior									Total
COST (\$ in Millions)	Years Cost	FY 200	3 FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost	224.154	16.	9.903	13.138	14.060	16.309	9.842	10.002	Continuing	Continuing
RDT&E Articles Qty										0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. (U) The SURTASS project comprises the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS also provides the undersea surveillance necessary to support regional conflicts and sea-lane protection. SURTASS has experienced recent passive and active success against diesel submarines operating in shallow water. SURTASS is greatly reducing costs by consolidating logistics support, using Non-Developmental Items and commercial hardware, while increasing operator efficiency through computer aided detection and classification/passive automation to counter quieter threats; additional signal processing and bi-static active capability; integrated active and passive operations; improved Battle Group support; and improved information processing. Functional improvements are delivered to the Fleet in software "Builds". Future builds are based upon the Advanced Processor Build (APB) process begun by the NAVSEA Submarine USW program. APB-99 was used to support an ARCI Engineering Development Model (EDM) demonstration system, providing A-180R long-line processing only. APB-01 was used for the production ARCI systems for all long-line arrays. APB-02 provides Twin-line processing capabilities, and APB-03 will provide active processing capabilities. Additionally, each APB will introduce new capabilities into SURTASS systems including improved automation, normalizer techniques, adaptive beam forming, and display enhancements. SURTASS participates in the process by contributing algorithms for consideration, supplying peer group members for review of candidate algorithms, participating in test evolutions, and incorporating improved algorithms into operational systems. LFA provides an active adjunct capability for IUSS passive and tactical sensors to counter the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow quiet threats in har

B. (U) PEO LMW is involved with the development and maintenance of various IUSS systems. These systems include FDS, FDS-C, SDS, SURTASS, and ADS. The near term objective is to obtain a common Operator Machine Interface (OMI) among currently fielded systems. The long-term goal is to develop a single IUSS processor baseline, with minor maintenance efforts continuing on fielded systems. The existing system architecture, signal processing, contact management, and reporting requirements will be evaluated as well as the requirements for future systems. The development of the IUSS processor will take advantage of automation advancement, array technology improvements, and IUSS, submarine, and surface USW system commonality.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	1		DATE:	
			February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME	
RDT&E, N / BA 7	0204311N-Integrated Surveillance Systems	Q0766: IUSS Detection an	d Classification System	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
FSS	0.000	0.000	0.000
RDT&E Articles Quantity			

Beginning in FY03 FSS transferred from SPAWAR to NSMA under a new project code.

	FY 03	FY 04	FY 05
T-23 DT/OT	1.825	0.750	0.000
RDT&E Articles Quantity			

FY03: T-23 DT/OT (\$1,825K) — Continued T-23 certification test planning and initial at-sea testing. Corrected software issues uncovered during testing.

FY04: T-23 DT/OT(\$750K) - Complete certification testing. Correct software issues uncovered during testing.

	FY 03	FY 04	FY 05
Common Acoustic Processor	3.275	2.000	0.000
RDT&E Articles Quantity			

FY03: Common Acoustic Processor (\$3,275K) – Continued software development for Twin-Line processing in the ARCI architecture. Added APB improvements to single line ARCI capability. FY04: Common Acoustic Processor (\$2,000K) – Complete software development for Twin-Line processing in the ARCI architecture. Begin software development for Active processing in the ARCI architecture. Add APB improvements to single line ARCI capability.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justific	ation			DATE: February 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AND	
T&E, N / BA 7	0204311N-Integrated Surveil			and Classification System
B. Accomplishments/Planned Program		,		·
	FY 03	FY 04	FY 05	\neg
Surveillance Systems	0.000	0.000	0.000	
RDT&E Articles Quantity				
No Activity				
Antino Annuation	FY 03	FY 04	FY 05	
Active Acoustics	2.531	0.659	0.000	_
RDT&F Articles Quantity	I			
·			0011000 111 1 1 1	
for LFA operations in shallow water. Continu FY04: Active Acoustics (\$659K) - Continue in	led sea test program to support system in the sea test mplementation of a multi-year sea test	n improvements and de program focused on Co	monstrate/validate operational p DNOPS and the physics of shal	shallow water. Continued development of improvements berformance. low water. Continue development of improvements for epts. Transition Active Acoutics efforts to SURTASS
FY03: Active Acoustics (\$2,531K) – Continue for LFA operations in shallow water. Continue FY04: Active Acoustics (\$659K) - Continue in LFA operations in shallow water. Continue s	led sea test program to support system in the sea test mplementation of a multi-year sea test	n improvements and de program focused on Co	monstrate/validate operational p DNOPS and the physics of shal	performance. ow water. Continue development of improvements for
FY03: Active Acoustics (\$2,531K) – Continue for LFA operations in shallow water. Continue FY04: Active Acoustics (\$659K) - Continue in LFA operations in shallow water. Continue s	ned sea test program to support system mplementation of a multi-year sea test ea test program to support system imp	n improvements and de program focused on Co provements and demon	monstrate/validate operational p DNOPS and the physics of shal strate/validate operational conc	performance. ow water. Continue development of improvements for

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FY03: LFA Environmental (\$600K) – Continued environmental research on the impact of low frequency active sonar on the marine environment. This effort transferred to ONR in FY04.

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EXHIBIT R-2a, RDT&E Project Justification	9110 <u>2</u> /10011 12		DATE:	
			February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME	
RDT&E, N /BA7	0204311N-Integrated Surveillance Systems	Q0766: IUSS Detection and	d Classification System	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
N74 ASW Study	1.074	1.023	1.175
RDT&E Articles Quantity			

FY03: N74 ASW Study (\$1,074K) – Continued conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models.

FY04: N74 ASW Study (\$1,023K) – Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models.

FY05: N74 ASW Study (\$1,175K) – Continue conducting trade-off and mission studies to explore networked ASW system concepts, investment alternatives and development of a community-wide strategy for common performance models.

	FY 03	FY 04	FY 05
ASW C4I	0.200	0.125	0.000
RDT&E Articles Quantity			

FY03:ASWC4I (\$200K) – Continued performing engineering, analysis and trade-offs; conduct proof of concept testing to support IUSS integration into the Navy's C4I architecture, including IT-21 implementation.

FY04: ASWC4I (\$125K) – Continue performing engineering, analysis and trade-offs; conduct proof of concept testing to support IUSS integration into the Navy's C4I architecture, including IT-21 implementation.

	FY 03	FY 04	FY 05
System Engineering	0.255	0.125	0.000
RDT&E Articles Quantity			

FY03: IUSS System Engineering (\$255K) – Continued to provide system level engineering across IUSS programs. Translate Fleet requests into system level design solutions.

FY04: IUSS System Engineering (\$125K) – Continue to provide system level engineering across IUSS programs. Translate Fleet requests into system level design solutions for IUSS Common Processor.

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EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	ÎAME
RDT&E, N / BA 7	0204311N-Integrated Surveillance Systems	Q0766: IUSS Detection an	d Classification System
(U) B. Accomplishments/Planned Program			

	FY 03	FY 04	FY 05
WeCAN	0.000	0.000	0.000
RDT&E Articles Quantity			

No Activity

	FY 03	FY 04	FY 05
SURTASS System Eng & Shore Support	1.595	1.000	0.000
RDT&E Articles Quantity			

FY03: (\$1,595K) Continued development of SURTASS ARCI interfaces with IUSS legacy systems. Continue incorporation of future ARCI, Comms, and TDA improvements. Develop shore processing/display software in the ARCI architecture. Investigate data compression algorithms; link management implementations, and improved reach back capabilities. Continue implementation of Common OMI. FY04: (\$1,000K) Complete development of SURTASS ARCI interfaces with IUSS legacy systems. Complete implementation of Common OMI.

	FY 03	FY 04	FY 05
Passive Processing & Automation	3.078	1.095	0.000
RDT&E Articles Quantity			

FY03: (\$3.078K) Continued development of algorithms and software for signal processing and automation associated with unique SURTASS requirements and environments, in conjunction with the SPWG and AWG. Develop automated tools to reduce operator workload caused by increased beam count and high clutter in shallow water. Participation in SDWG and related working groups.

FY04: (\$1,095K) - Continue development of algorithms and software for signal processing and automation associated with unique SURTASS requirements and environments. Participation in SDWG and related working groups. Focus future efforts on SURTASS Active Improvement Program.

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 6 of 23)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMI	BER AND NAME	PROJECT NUMBER AND	
T&E, N / BA 7	0204311N-Integrated Surveil	0204311N-Integrated Surveillance Systems		nd Classification System
	1			
B. Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	7
TB-29A/Twin-Line	2.400	1.740	1.500	
RDT&E Articles Quantity				
of Twin-Line modifications to basic TB-29A a	rchitecture.			form telemetry architecture. Continue development nent of across platform telemetry architecture.
	FY 03	FY 04	FY 05	J
Littoral LFA	0.000	0.000	0.000	
RDT&E Articles Quantity				_
No Activity				
	FY 03	FY 04	FY 05	
Towed Array Technologies	FY 03 0.000	FY 04 0.000	FY 05 0.000	

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 7 of 23)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificati	DATE: February 2004			
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER ANI	
DT&E, N /BA 7		0204311N-Integrated Surveillance Systems		and Classification System
) B. Accomplishments/Planned Program				-
	57.00			
OUDTA OO A stirre brown and Day was	FY 03	FY 04	FY 05	
SURTASS Active Improvement Program	0.000	1.386	10.463	
RDT&E Articles Quantity				
Continue active ARCI developments and incorp	· 			
	FY 03	FY 04	FY 05	
	0.000	0.000	0.000	
RDT&E Articles Quantity				
	FY 03 0.000	FY 04 0.000	FY 05 0 000	<u> </u>
RDT&E Articles Quantity	FY 03 0.000	FY 04 0.000	FY 05 0.000	
RDT&E Articles Quantity				

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 8 of 23)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:
·				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0204311N-Integrated Surveillance	Systems		Q0766: IUSS Detection and Classification System
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2003	FY 2004	FY 2005	
Previous President's Budget (FY04 Pres Controls)	17.012	10.017	13.189	
Current BES/President's Budget (FY05 Pres Contro	ls) 16.833	9.903	13.138	
Total Adjustments	-0.179	-0.114	-0.051	-
Summary of Adjustments				
Congressional Undistributed Adjustmer	its	-0.114		
Inflation Adustments			-0.043	
Miscellaneous Navy Adjustments	-0.179		-0.008	
Subtotal	-0.179	-0.114	-0.051	-

(U) Schedule:

The following projects were delayed due to FY03 funding reductions: Littoral Low Frequency Active (LLFA) System Development and Demonstration phase will be extended by one year. The incorporation of active processing into the ARCI processing system will be delayed by one year and the developmental and operational testing of the TB-29 twinline system will be expanded by 6 months.

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Jus	tification			DATE:							
									Feb	ruary 2004	
APPROPRIATION/BUDGET ACTIVITY				IBER AND NAM		PROJECT NU					
RDT&E, N / BA-	7	0204311N-Inte	egrated Survei	llance Systems		Q0766: IUSS	Detection a	nd Classificati	on System		
(U) D. OTHER PROGRAM FUNDI	NG SUMMARY:								To	Total	
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost	Total	
OPN 2237 OMN Omitted per instructions	19.942	15.114 7.166 3.825 0.445				1.166	1.38	Continuing	Continuing		
(U) E. ACQUISITION STRATEGY: *											
Program Milestones	FY2003			FY2004		F	Y2005				
Engineering Milestones	ARCI VARIANT 7/03			TB29/TL ANT 7/04			CI ACTIVE RIANT 7/05				
T&E Milestones				3 SEA TESTS /TL SEA TESTS			T-23 SEA TESTS 29/TL SEA TEST				
Contract Milestones			TB2 VAR	9/TL IANT 6/04							
* Not required for Budget Activities 1,2,3, and 6											

CLASSIFICATION:

E 11111 B 0 0 1 4 1 1 1 1	4.							DATE:		- 1 000		
Exhibit R-3 Cost Analysis (parappropriation/BUDGET ACTIVE)		IDDOOD AMA	EL ENGENIT			IDDO IDOT NII	MDED AND A	IA NAT		February 200)4	
RDT&E, N / BA-7	/11 Y	PROGRAM I	ELEMENT	lanaa Cuatama		PROJECT NU		NAIME nd Classificatio	n Sustam			
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
Cost Categories	Method & Type	Activity & Location		FY 03	Award Date	FY 04	Award Date		Award Date	Cost to Complete	Total Cost	Target Value of Contract
WeCAN	CPFF	ORINCON / VARIOUS	10.780	0.000		0.000		0.000		0.000	10.780	
FDS/ AODS	CPFF	TBD	8.000	0.000		0.000		0.000		0.000	8.000	
IUSS Common Architecture	CPFF	GDAIS/LM/ARL	34.712	4.286	11/02	2.689	11/03	0.000		0.000	41.687	
Environmental Research	WR	ONR / VARIOUS	7.900	0.600	11/02	0.000		0.000		0.000	8.500	
Active Improvements/T-23 DT-OT	CPFF	BAE /GDAIS/ VARIOUS	84.479	2.206	11/02	1.612	11/03	8.563	11/04	Continuing	Continuing	
C4I Integration	CPFF	VARIOUS	31.543	0.150	11/02	0.075	11/03	0.000		0.000	31.768	
N74 ASW Study	WX/PD	NUWC / APL	1.767	1.074	11/02	1.023	11/03	1.175	11/04	Continuing	Continuing	
Various	WX	VARIOUS	28.389	0.000		0.000		0.000		0.000	28.389	
Passive Signal Processing/ Sonar	CPFF	APL/GDAIS	0.000	1.707	11/02	0.495	11/03	0.000		0.000	2.202	
Array Improvements	CPFF/WR	APL/SSC/VAR	0.000	1.650	11/02	0.880	11/03	0.730	11/04	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			207.570	11.673		6.774		10.468		0.000	236.485	

Remarks:

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pagaPPROPRIATION/BUDGET ACTIV	ge 1)										February 200)4	
APPROPRIATION/BUDGET ACTIV	'ITY		PROGRAM E	LEMENT			PROJECT NU						
RDT&E, N / BA-7			0204311N-Inte		lance Systems		Q0766: IUSS		nd Classificatio				
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
IUSS Common Architecture	WX	Various		0.990	0.160	11/02	0.150	11/03	0.000		0.000	1.300	
LFA Improvements /Active Acoustic	CPFF	NGC/Various		4.005	0.500	11/02	0.400	11/03	0.750	11/04	Continuing	Continuing	
C4ISR Integration	CPPF	NGC/Various		1.719	0.050	11/02	0.050	11/03	0.000		0.000	1.819	
FDS/AODS	WX	Various		1.216	0.000	11/02	0.000	11/03	0.000		0.000	1.216	
Passive Signal Processing/ Sonar	Var/WX	Various		0.000	0.500	11/02	0.100	11/03	0.000		0.000	0.600	
Array Improvements	Var/WX	Various		0.000	0.300	11/02	0.320	11/03	0.320	11/04	Continuing	Continuing	
												0.000	
												0.000	
												0.000	
												0.000)
												0.000)
												0.000	
												0.000	
												0.000)
												0.000)
												0.000)
												0.000)
												0.000)
												0.000)
												0.000)
												0.000)
												0.000)
												0.000)
Subtotal Support				7.930	1.510		1.020)	1.070		0.000	11.530)
Remarks:				. ——					. ———				

CLASSIFICATION:

		DATE:											
Exhibit R-3 Cost Analysis (pag	je 2)										February 200	04	
APPROPRIATION/BUDGET ACTIV	İTY		PROGRAM EL	EMENT			PROJECT N	JMBER AND I	NAME				
RDT&E, N / BA-7			0204311N-Integ	grated Surveil	lance Systen	IS	Q0766: IUS	Detection a	nd Classificati	on System			
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	(Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
IUSS Common Architecture	Var/ WX	VARIOUS		1.051	0.50	0 11/02	0.286	11/03	0.00	0	0.000	1.837	
LFA Improvements	Var/ WX	VARIOUS		5.866	1.50	0 11/02	0.653	11/03	1.00	11/04	Continuing	Continuing	
Passive Signal Processing/ Sonar		VARIOUS			0.95	0 11/02	0.350	11/03	0.00		0.000	1.300	
Array Improvements	Var/ WX	VARIOUS			0.25	0	0.340	11/03	0.25	11/04	Continuing	Continuing	
												0.000	
												0.000	
												0.000	
Subtotal T&E				6.917	3.2	00	1.629	9	1.25	0	0.000	12.996	
LFA Improvements /C4ISR	Var/ WX	VARIOUS		1.737	0.1	11/02	0.130	11/03	0.15	0 11/04	Continuing	Continuing	
Passive Signal Processing/ Sonar	Var/ WX	VARIOUS			0.10	00 11/02	0.150	11/03	0.00	0	0.000	0.250	
Array Improvements	Var/ WX	VARIOUS			0.2	00 11/02	0.200	11/03	0.20	0 11/04	Continuing	Continuing	
												0.000	
												0.000	
												0.000	
Subtotal Management				1.737	0.4	50	0.480)	0.35	0	0.000	3.017	
Remarks:					,					,		,	
Total Cost				224.154	16.8	33	9.900	3	13.13	8	0.000	264.028	
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule F	Profile																								DATE	:	_					
APPROPRIATION/BUDGET	ACTIV	ITY							PROG	RAM	FLEM	NT N	IIMBE	R AND	NAME						PRO.	IECT N	ILIMBE	R ANI	D NAM	F	<u> </u>	ebrua	ry 20	04		
RDT&E, N /	BA-								02043							-											cation	Syste	m			
Fiscal Year		-				20	003		2004 2005 2006			7.0.0	20					08	oyo.c	···	20	09										
	1	2	2 3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones Inactive ACAT II Status Eff 15 Ju	2002 اد																															
Test & Evaluation Milestones																																
T-23 DT TB-29A/Twinline																																
LFA / ARCI FOT& E																																
Production Milestones																																
Complete																																

R-1 SHOPPING LIST - Item No. 172

* Not required for Budget Activities 1, 2, 3, and 6 FOT & E: Follow-on Test and Evaluation

Exhibit R-4, Schedule Profile (Exhibit R-4, page 14 of 23]

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&E, N / BA-7	0204311N-Int	egrated Surveil	ance Systems		X0766: IUSS	Detection and	l Classification	n System
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
T-23 Developmental Testing Shakedown			2Q					
T-23 Developmental Evaluation			3Q					
T-23 System Training			3Q					
T-23 System Ops			4Q					
TB29A TL Developmental Test Shakedown			4Q					
TB29A TL Developmental Evaluation				1Q				
TB29A TL System Ops				1Q				
FOT & E (TB29A / ARCI/ Active)				. ~		2Q		
				-	-			
						1	1	1

R-1 SHOPPING LIST - Item No.

172

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:					
•									Febru	ıary 2004			
APPROPRIATION/BUDGET ACTIVITY	MBER AND N	AME											
RDT&E, N / BA 7	0204311N-Inte	egrated Surveill	ance Systems			9102: IUSS Mission Planning							
	Prior										Total		
COST (\$ in Millions)	Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program		
Project Cost	6.686		2.927	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.613		
RDT&E Articles Qty											0		

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A.	(U) IUSS provides	the Navy with its	primary means of	of submarine detection	both nuclear and diesel.	The program has und	dergone a major tran	sition from emphasis o	on maintaining a	large dispersed
surveillance t	force keyed to detec	tion and tracking o	f submarines to a	much smaller force that	at is effective against mod	ern diesel and nuclear	submarines in regiona	al/littoral or broad ocear	areas of interest	. This transition
preserves the	e ability to continue	open ocean surveill	lance. PEO LMW	is involved with the dev	elopment and upgrade of	various IUSS systems.	These systems inclu	ide FDS, FDS-C, SDS,	SURTASS, and A	DS.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificat	tion			DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	R AND NAME	PROJECT NUMBER AND NAME	February 2004
RDT&E, N /BA 7	0204311N-Integrated Surveilland		9102: IUSS Mission Planning	
(U) B. Accomplishments/Planned Program	12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Ţ	
	FY 03	FY 04	FY 05	
IUSS Mission Planning	2.927	0.000	0.000	
RDT&E Articles Quantity				
FY03 (\$2,927K) - Phase II: User Automation a				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	
RDT&E Articles Quantity				
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03 0.000	FY 04 0.000	FY 05 0.000	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification]	DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME	-	PROJECT NUMBER AND NA	February 2004
RDT&E, N / BA-7	0204311N-Integrated Surveillance			9102: IUSS Mission Plannin	
RDIGE, N / BA-1	02043 i TN-integrated Surveillance	Systems		9102: 1033 MISSION PIANNIN	ng .
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding: Previous President's Budget (FY04 Pres Controls)		FY 2004 0.000	FY 2005 0.000		
Current BES/President's Budget (FY05 Pres Contr Total Adjustments	2.927 0.000	0.000	0.000		
Summary of Adjustments Congressional Undistributed Adjustments Inflation Adustments Miscellaneous Navy Adjustments	ents				
Subtotal	0.000	0.000	0.000		
(U) Schedule: Not applicable					
(U) Technical: Not applicable					
	D 4 CHODD			470	

CLASSIFICATION:

PROPRIATION/BUDGET ACT	II/IT/	PROGRAM ELI	EMENIT NILIMB	ED AND NAM	_	PROJECT NUM	IDED AND NAI	ME	Februar	y 2004
T&E, N /	BA-7	0204311N-Integ	grated Surveilla	ance Systems		9102: IUSS Mi	ssion Plannin	g		
(U) D. OTHER PROGRAM	FUNDING SUMMARY:								То	Total
Line Item No. & Name		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
NONE										
Related RDTEN:										
	66 Integrated Surveillance System	16.833	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
(U) PE 0604784N	Advanced Deployable System	37.591	32.907	7.776	65.131	67.637	40.748	9.874	Continuing	Continuing
(U) E. ACQUISITION STRAT	EGY: *									
Program Milestones										
Engineering Milestones										
T&E										
Milestones										
Contract Milestones										
(U) F. MAJOR PERFORMER	RS: **									

CLASSIFICATION:

4							
: Fiberoptic Wavelength Division Multiplier							
Total							
Complete Program	<u>n</u>						
0.000 2.52	529						
0							
	Complete Program						

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. (U) Copper wiring and interconnects pose reliability issues. Copper interconnects are limited in bandwidth and are susceptible to EMI and EMP and compromise digital systems. These funds are directed to support the technical development of implementing broadband (WDM) networks, optical computer interconnects and optically based control systems for new and legacy surveillance platforms.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	1			DATE:
				February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AND N	NAME
DT&E, N / BA 7	0204311N-Integrated Surveil	lance Systems	9270: Fiberoptic Wavelen	gth Division Multiplier
) B. Accomplishments/Planned Program				
) B. Accomplishments/Flanned Frogram				
	FY 03	FY 04	FY 05]
WDM Network Technology Development	2.529	0.000	0.000	
RDT&E Articles Quantity				
FY03 (\$2.529) WDM Network Technology Progra	m developed and optimized the la	itest bandwith photonics	technology in new and retrofit m	nilitary platforms to maintain warfighting position
which is highly dependent on information superior				
subsystem.		•		
				_
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	4
RDT&E Articles Quantity				J
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NA	February 2004 ME
RDT&E, N / BA-7	0204311N-Integrated Surveillance			9270: Fiberoptic Wavelengt	
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding: Previous President's Budget (FY04 Pres Controls) Current BES/President's Budget (FY05 Pres Control Total Adjustments Summary of Adjustments Congressional Add Congressional Undistributed Adjustme Inflation Adustments Miscellaneous Navy Adjustments	2.529 2.600 nts -0.038 -0.033	FY 2004 0.000 0.000 0.000	FY 2005 0.000 0.000 0.000		
Subtotal	2.529	0.000	0.000		
(U) Schedule: Not applicable					
(U) Technical: Not applicable					
		ING LIST - I		170	

CLASSIFICATION:

PROPRIATION/BUDGET ACT	II/ITV	PROGRAM ELEMENT NUMBER AND NAME PROJECT NUM					ADED AND NA	ME		y 2004	
					_						
DT&E, N /	BA-7	0204311N-Inte	grated Surveill	ance Systems		9270: Fiberop	tic Wavelengt	h Division Mu	Itiplier		
(U) D. OTHER PROGRAM	I FUNDING SUMMARY:								То	Total	
Line Item No. & Name		<u>FY 2003</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost	
NONE											
Related RDTEN: (U) PE 0604784N	Advanced Deployable System	37.591	32.907	7.776	65.131	67.637	40.748	9.874	Continuing	Continuing	
(U) E. ACQUISITION STRAT	TEGY: *										
Program Milestones Engineering Milestones T&E Milestones Contract Milestones											
(U) F. MAJOR PERFORMER	RS: **										

UNCLASSFIED

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:						
							FEBRUA	RY 2004
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMEN	CLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATI	ON, NAVY /	BA-7			PE 0204413N/Am	ohibious Tactical S	upport Units	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Total PE Cost	6.106	5.589	2.604	4.673	4.218	2.269	2.773	
1980 AMPHIB OTHER C2	4.225	4.416	0.161	2.718	2.263	0.312	0.323	
2231 MCAC WEAPONS DEVELOPMENT	1.881	1.173	0.000	1.955	1.955	1.957	2.450	
2909 AMPHIBIOUS LIGHTERAGE DEVELOPMENT	0.000	0.000	2.443	0.000	0.000	0.000	0.000	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Program Element supports multiple amphibious warfare development and technology insertion efforts.

B. PROJECT UNIT EFFORTS are as follows:

<u>AMPHIB OTHER C2 (1980)</u> - Automates the **Supporting Arms Coordination Center (SACC)** aboard LHA 1 and LHD 1 ship classes, providing an integrated, automated capability to conduct Amphibious Task Force (ATF) Marine Expeditionary Brigade (MEB) level fire support planning, coordination, deconfliction, and execution of fires utilizing all supporting arms including naval surface fires, air assets, artillery, mines, and mortars. This PU also contains FY06-FY09 funding for the **AMPHIBIOUS ASSAULT DIRECTION SYSTEM (AADS, AN/KSQ-1)**, which provides AADS the ability to investigate future Navy C4ISR technical direction, explore technological advances, and analyze interoperability issues in order to develop the requisite technical upgrades.

MCAC WEAPONS DEVELOPMENT (2231) - FY02-FY04 LCU Replacement supports the development of a technologically advanced heavy lift utility landing craft that will compliment the high speed, overthe beach, ship-to-shore amphibious lift of the future. The DMFD effort was cancelled in October 2001. FY06-FY09 MCAC WEAPONS DEVELOPMENTTransitions 6.3 research efforts on LCAC Future Naval Capabilities (FNC): Electronic Warfare Integrated System for Small Platforms (EWISSP), technology refresh for Commercial Off The Shelf (COTS) equipment; Virtual Environment LCAC (VELCAC) training simulators; and integration/interoperability capabilities for LCAC in Expeditionary Warfare environment.

UNCLASSFIED

EXHIBIT R-2a, RDT&E Project Justification	KHIBIT R-2a, RDT&E Project Justification								
					FEBRUARY 2004				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMI	ENT NUMBER AND	NAME		PROJECT NUMBER AND NAME				
RDT&E,N/BA-7	0204413N/Amp	N/Amphibious Tactical Support Units 1980 AMPHIB OTHER C2							
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
Project Cost	4.225	4.416	0.161	2.718	2.263	0.312	0.323		
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

AMPHIB OTHER C2 includes (1) FY03-FY09 **Supporting Arms Coordination Center (SACC)** program which automates the communications and data flow that calls for fire and supporting arms for Marine forces ashore. Currently the process is all manual and voice accomplished which is unresponsive to the needs of supported forces. Specifically, SACC is developing the Naval Fire Control System and developing/procuring two engineering development models for shipboard installation and test. SACC will also interface with the Advanced Field Artillery Tactical Data System (AFATDS), which integrates the automated function of supporting arms into the composite tactical picture. (2) FY06-FY09 **Amphibious Assault Direction System (AADS, AN/KSQ-1)** program researches Network Centric Warfare requirements for Amphibious Assault Command and Control, identifies the projected technological advances and requirements of Fleet systems, and identifies the Next Generation AADS operational requirements and capabilities. Technology integration with Expeditionary Strike Force ships is also included.

UNCLASSFIED

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME
RDT&E,N/BA-7	PE 0204413N/Amphibious Tactical Support Units	1980 AMPHIB OTHER	R C2

B. ACCOMPLISHMENTS/PLANNED PROGRAM

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	4.225	4.416	0.161
RDT&E Articles Quantity	N/A	N/A	N/A

SACC:

System Engineering Development for Spiral I and Spiral II, including Requirements Definition and Lab Based Testing; Acquisition and Prototype interface development of AFATDS with Naval Fires Network (NFN) and Install and Test Aboard LHA/LHD; DoD Documentation Program Reviews (e.g. ORD revalidation, APB, TEMP SEMP, ILSP); Programmatic Support (e.g. Mgt Plans, Schedule, Briefs, Travel, Studies, etc.); Shipboard Interface and Interoperability Analysis and Testing of Spiral I; Ship Checks and Drawings. Developmental Test and Evaluation of Spiral I and Spiral II; Software Development of Spiral II; Shipboard Interface and Interoperability Testing of Spiral II Test, Training, and Logistic's System Development, and System Integration and Shipboard Interface/Interoperability Testing. Portion of extramural program reserved for Small business innovation Research assessment in accordance with 15 USC 638.

AADS:

Efforts start in FY 06.

C. Program Change Summary:

(U) Funding	FY 2003	FY 2004	FY 2005
(U) FY 2004 President's Controls	4.271	4.466	0.161
(U) FY 2005 President's Controls	<u>4.225</u>	<u>4.416</u>	<u>0.161</u>
(U) Total Adjustments	-0.046	-0.05	0
- (U) Summary of Adjustments:			
FY03 SBIR	-0.035		
Misc Minor Adjustments	<u>-0.011</u>	<u>-0.05</u>	<u>0</u>
	-0.046	-0.05	0

(U) Schedule: Not Applicable

(U) Technical: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification	n							DATE:	DV 0004
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEM	ENT NUMBER AND	D NAME		PROJECT NUMBE	R AND NAME	FEBRUA	RY 2004
RDT&E, N / BA-7		0204413N/Amp	hibious Tactic	al Support Unit	s	1980 AMPHIB	OTHER C2		
D. Other Progrm Funding Summary:	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
SACC	1 1 2005	1 1 2004	1 1 2005	1 1 2000	1 1 2001	1 1 2000	1 1 2003	<u>To Complete</u>	Total Cost
OPN Line 098100 Items Under \$5M	606	857	860	860	844	862	875	Con't	Con't
OM&N Line PE 0708012N, 1B5B, PEO, EXW	311	1724	1745	1370	1365	1392	1429	Con't	Con't
AADS:									
OPN Line 067000/067005 Other Nav Equip	0	0	0	6960	8555	5846	4134	Con't	Con't
OM&N Line, PE 0204411N 1B5B, PEO, EXW	1575	1492	1488	1605	1730	3638	3738	Con't	Con't

The procurement items are for **SACC** include jam boxes, Automated Distribution Network Systems (ADNS), racks, workstations, and communications devices which will be permanent changeouts to the amphibious ships. These need to be in place in order to permit the connection of the automated SACC capabilities. The operations and maintenance efforts are for program, engineering, and technical support, logistics support and technical assists. The procurement items for **AADS** are related to two subsystems: EPLRS and the ship dependent AN/KSQ-1 hardware configurations. Examples of specific items include RT-1720 (c) Enhanced PLRS User Unit (EPUU digital radios, EPLRS Net Control Station (NCS) workstations, and other EPLRS equipment.

(U) Related RDT&E: Not Applicable

E. Acquisition Strategy: The **SACC** effort is part of a collaboration between N75 and N76 to jointly develop and field a Naval Fire Control System (NFCS) that satisfies the requirements of naval and supported forces. The NFCS is to be an ACAT III Program under N76 management. The AADS effort is prioritized according to lead-time between hardware procurement and delivery. The longest lead-time is associated with some EPLRS equipment with lead times as long as 18 to 20 months. The intent is to procure the EPLRS long lead-time equipment in FYs 04-05, and other equipment in time for integration installation using a schedule associated with ARG and/or Amphibious ship/craft availability beginning 2nd or 3rd quarter FY05.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E,N/ BA-7	0204413N/Amphibious Tactical Support Units	1980 AMPHIB OTHER C2	

F. Major Performers:

Field Activities & Locations - Work Performed:

NSWC DD, Dahlgren, VA - Hardware Development, Systems Engineering, Training, ILS, T&E NSWC CSS, Panama City, FL - Systems Engineering

NNSY, Norfolk, VA - Technical Data

ARMY - Hardware Development

Contractors & Locations - Work Performed

PM Effects - Hardware Development

TBD - Software Development

Universities & Locations - Work Performed - Not Applicable.

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pa										FEBRUARY 2	004	
APPROPRIATION/BUDGET ACTIV	/ITY	PROGRAM I	ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7		PE 0204413	N/Amphibious 7	Tactical Suppor	t Units	1980 AMPH	IB OTHER C2	2				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value
Primary Hardware Development	IPR	PM Effects, ARMY	1.55	3 1.400	12/02					· ·	2.953	
Ancillary Hardware Development	WX	NSWC DD				0.500	12/03				0.500	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WX	NSWC DD , NSWC CSS	2.768	3 1.20	12/02	0.950	12/03				4.919	
Training Development	WX	NSWC DD				0.897	12/03				0.897	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			4.32	1 2.60		2.34	7	0.00	0	0.000	9.269	

Development Support										0.000	
Software Development	CPAF	TBD				0.897	12/03			0.897	
Integrated Logistics Support	wx	NSWC DD		0.200	12/02	0.389	12/03			0.589	
Configuration Management										0.000	
Technical Data	WX	NNSY		0.200	12/02					0.200	
Studies & Analyses										0.000	
GFE										0.000	
Award Fees										0.000	
Subtotal Support			0.000	0.400		1.286		0.000	0.000	1.686	

Remarks:

CLASSIFICATION:

.										DATE:				
Exhibit R-3 Cost Analysis (p												FEBRUARY 2	004	
APPROPRIATION/BUDGET ACT	TIVITY		PROGRAM E					PROJECT NU						
RDT&E, N / BA-7	0	D. (PE 0204413		Tactica			1980 AMPH		2	IEV 05	1		
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY (03	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation		NSWC (DD 8	CSS)	0.0		1.149		0.708		0.161	12/04		#VALUE!	
Operational Test & Evaluation		(===							1		1=, 0 1		0.000	
Live Fire Test & Evaluation													0.000	1
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E				0.0	000	1.149		0.708	3	0.161		0.000	2.018	
Contractor Engineering Support													0.000	
Government Engineering Support													0.000	
Program Management Support													0.000	1
Travel	wx	Various				0.075	12/02	0.075	12/03				0.150	
Transportation	***	Various				0.070	12,02	0.070	12,00				0.000	
SBIR Assessment													0.000	
Subtotal Management				0.0	000	0.075		0.075	5	0.000		0.000	1	

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile)																								DATE	:	FE	BRUA	ARY 2	2004		
APPROPRIATION/BUDGE	T ACTIV	TTY								PRO	GRAM	ELEM	IENT I	NUMBI	ER AN	D NAM	E					PROJ	IECT N	IUMBE	ER AN	D NAN	ΛE						
RDT&E, N /	BA-	7								PE (2044	13N/	Amp	hibio	us Ta	ctica	Sup	port l	Jnits			1980	AM	PHIE	OTH	IER (C2						
Fiscal Year		20	002				20	03			20	004			20	005			20	006			20	07			20	08			20	09	
SACC Automation	1	2	;	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Contract Award		A																															
Performance Specification																																	
Decision Reviews										A																							
Engineering/T&E Milestones																																	
Acquisition Milestones																							MS E	Δ									

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						FE	EBRUARY 2	004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&E,N/BA-7	PE 020441	3N/Amphibi	ous Tactica	I Support Units	1980 AMP	HIB OTHER	C2	
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
SACC Milestone B						3Q		

R-1 SHOPPING LIST - Item No.

171/9

UNCLASSFIED

EXHIBIT R-2a, RDT&E Project Justification					DATE:		
					FEBRUA	RY 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER ANI	O NAME		PROJECT NUMBE	R AND NAME	
RDT&E,N/BA-7	0204413N/Amp	hibious Tactic	al Support Unit	s	2231 MCAC W	EAPONS DEVEL	OPMENT.
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	1.881	1.173	0.000	1.955	1.955	1.957	2.450
RDT&E Articles Qty							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: MCAC WEAPONS DEVELOPMENT (2231) -

FY03-FY04 LCU Replacement supports the development of a technologically advanced heavy lift utility landing craft that will compliment the high speed, over-the beach, ship-to-shore amphibious lift of the future.

FY06-FY09 MCAC WEAPONS DEVELOPMENT transitions 6.3 research efforts on LCAC Future Naval Capabilities (FNC): Electronic Warfare Integrated System for Small Platforms (EWISSP), technology refresh for Commercial Off The Shelf (COTS) equipment; Virtual Environment LCAC (VELCAC) training simulators; and integration/interoperability capabilities for LCAC in Expeditionary Warfare environment.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N/BA-7	PE 0204413N/Amphibious Tactical Support Units	2231/MCAC WEAPONS	DEVELOPMENT	

B. ACCOMPLISHMENTS/PLANNED PROGRAM

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.881	1.173	0.000
RDT&E Articles Quantity			

LCU:

Analysis of Alternatives (AoA); Commercial designs (Feasibility & Detail designs); Conduct enabling technologies R&D; Model Testing & Simulations (e.g., beaching, seakeeping, survivability); Government Studies & Technical Support; Shipboard interface & interoperability; DoD 5000 Documentation & Program reviews; Contracting & Evaluation support; Programmatic support; Portion of extramural program reserved for Small business innovation Research assessment in accordance with 15 USC 638.

C. Program Change Summary:

(U) Funding	FY 2003	FY 2004	FY 2005
(U) FY 2004 President's Controls	1.914	1.186	0
(U) FY 2005 President's Controls	<u>1.881</u>	<u>1.173</u>	<u>0</u>
(U) Total Adjustments	-0.033	-0.013	0
- (U) Summary of Adjustments:			
FY03 SBIR	-0.028		
Misc Minor Adjustments	<u>-0.005</u>	<u>0</u>	<u>0</u>
	-0.033	0	0

(U) Schedule: Not Applicable

(U) Technical: Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									FEBRU	ARY 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM E	LEMENT NUM	BER AND NAM	1E	PROJECT NU	MBER AND N	IAME			
RDT&E, N / BA-7		0204413N/	Amphibious	Tactical Su	pport Units	2231/MCAC	WEAPONS I	DEVELOPME	:NT		
D. OTHER PROGRAM FUNDING SUMMARY:											
	=\(5 1/2222	=1/2001	=1/222=	=1.0000				То	Total	
Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost	
SCN Line 510000 LCU(R)	0	0	0	25.048	21.965	46.519	47.408	64.493	115.451	320.884	

E. ACQUISITION STRATEGY:

LCU - Feasibility studies will be conducted to determine the best design to meet new Navy requirements for heavy lift utility landing craft and to support a performance specification that will be competitively awarded.

F. MAJOR PERFORMERS:

Field Activities & Locations - Work Performed: NSWC, Bethesda, MD - System engineering, test and evaluation.

Contractors & Locations - Work Performed: CNA, Arlington, VA - AoA

Universities & Locations - Work Performed Not applicable.

R-1 SHOPPING LIST - Item No.

171/12

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pa	ige 1)										FEBRUARY 2	004	
APPROPRIATION/BUDGET ACTI			PROGRAM E	LEMENT			PROJECT NU	JMBER AND N	IAME				
RDT&E, N / BA-7			PE 0204413N	I/Amphibious T	actical Support	Units	2231/MCAC	WEAPONS	DEVELOPME	NT			
Cost Categories				Total		FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development												0.000	,
Ancillary Hardware Development												0.000)
Aircraft Integration												0.000)
Ship Integration												0.000	
Ship Suitability												0.000	
Systems Engineering	FFP	VARIOUS		1.799	1.042							2.841	
Training Development												0.000	,
Licenses												0.000)
Tooling												0.000)
GFE	WX	NAVICP					0.110	06/04				0.110)
Award Fees												0.000)
Subtotal Product Development				1.799	1.042		0.110		0.000		0.000	2.951	

LCU Replacement - No Cost to Complete - RDT&E efforts complete FY05 as program transitions to construction in FY05 under SCN. MCAC WEAPONS DEVELOPMENT commences FY06.

Development Support	WX	NSWC Bethesda, MD	2.036	0.031	0.400	03/04			2.467	
Software Development									0.000	
Integrated Logistics Support									0.000	
Configuration Management									0.000	
Technical Data									0.000	
Studies & Analyses	WX	ONR	0.254						0.254	
GFE									0.000	
Award Fees									0.000	
Subtotal Support			2.290	0.031	0.400		0.000	0.000	2.721	

Remarks:

LCU Replacement - No Cost to Complete - RDT&E efforts complete FY05 as program transitions to construction in FY05 under SCN. MCAC WEAPONS DEVELOPMENT commences FY06.

CLASSIFICATION:

Evhibit D. 2 Coot Analysis (no.	no 1\								DATE:	_	Complete Cost 0.290 0.000 0.000 0.000 0.000 0.000 0.000 0.000		
Exhibit R-3 Cost Analysis (pag			1							Г	EBRUART 2	2004	
APPROPRIATION/BUDGET ACTIV	ITY		PROGRAM ELEM	MENT			PROJECT N	UMBER AND	NAME				
RDT&E, N / BA-7			PE 0204413N/An	nphibious Tact	ical Support L	Jnits	2231/MCA	WEAPON	S DEVELOP	MENT			
Cost Categories	Contract	Performing	j	Total		FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	WX	COMOPTE	VFOR		0.250	04/03	0.040	03/04				0.290	
Operational Test & Evaluation	WX	SPAWAR		0.029					0.000		0.000	0.029	
Live Fire Test & Evaluation												0.000	
Test Assets												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees			•									0.000	
Subtotal T&E				0.029	0.250		0.040		0.000		0.000	0.319	

Remarks

LCU Replacement - No Cost to Complete - RDT&E efforts complete FY05 as program transitions to construction in FY05 under SCN. MCAC WEAPONS DEVELOPMENT commences FY06.

Contractor Engineering Support	FFP	VARIOUS	0.661	0.334		0.200	12/03			1.195	
Government Engineering Support	WX	VARIOUS	0.514	0.085	11/02	0.233	04/04			0.832	
Program management Support	CPFF	Various	0.182	0.100	09/03	0.175	12/03			0.457	
Travel	PD	NAVSEA TRAVEL	0.013	0.039	10/02	0.015	04/04			0.067	
Transportation										0.000	
SBIR Assessment										0.000	
Subtotal Management			1.370	0.558		0.623		0.000	0.000	2.551	

Remarks:

LCU Replacement - No Cost to Complete - RDT&E efforts complete FY05 as program transitions to construction in FY05 under SCN. MCAC WEAPONS DEVELOPMENT commences FY06.

Total Cost		5.488	1.881	1.173	0	0	8.542	

Remarks:

CLASSIFICATION:

EXHIBIT R4, Schedu	le Profile																								DATE	:	FE	BRU	ARY 2	2004		
APPROPRIATION/BUDG	ET ACTIVI	TY							PROG	RAM	ELEM	ENT N	JMBE	R AND	NAME						PROJ	ECT N	UMBE	R AND	NAM C	E						
RDT&E, N /	BA-7	7							PE 0	2044 ⁻	13N/ <i>A</i>	mph	ibiou	s Tac	tical	Supp	ort U	nits			2231/	MCAC	WEA	NON	S DE	VELO	PME	NT				
Fiscal Year		20	02			20	03			20	04			20	05			20	06			200)7			20	80			20	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones										MS B																						

 $^{^{\}star}$ Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						FI	EBRUARY 2	004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&BA-7	PE 0204413	N/Amphibiou	ıs Tactical Sı	upport Units	2231/MCAC	WEAPONS I	DEVELOPME	NT
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
AoA Completion	3Q							
Milestone B			2Q					
Contract Award				1Q				

R-1 SHOPPING LIST - Item No.

171/16

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	EXHIBIT R-2a,	, RDT&E Projec	t Justification				DATE:			
								Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AT	ND NUMBER			PROJECT NAME AND N	NUMBER	•			
RDT&E,N/BA7	Amphibious Tactical Spt	Unit/0204413N			Amphibious Lighterage [Development/2909		T		ı
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Cost
Project Cost		0.000	0.000	2.443	0.000	0.000	0.000	0.000	0.000	2.443
RDT&E Articles Qty		N/A	N/A	N/A						

A. Mission Description and Budget Item Justification:
Improved Navy Lighterage System (INLS): INLS replaces the existing Navy Lighterage (NL) system and supports the US Navy Lighterage recapitalization plan. Current NL will reach the end of its service life and will impact crew safety and operation readiness. INLS will be capable of operations in higher sea states, have a greater service life, and have a reduced maintenance costs. INLS will be deployed during Logistic Over The Shore (LOTS) operations, Assault Follow On Echelon (AFOE) operations and Maritime Prepositioning Force (MPF) operations. INLS consists of: Warping Tugs, Causeway Ferries, RO/RO Discharge Facilities and Floating Causeway. All the design and development for INLS was completed in FY03. Contract for Low Rate Initial Production (LRIP) was awarded in August 2003.

FY2003: Plan: Not Applicable FY2004: Plan: Not Applicable FY2005: Plan: \$2.443M for INLS OPEVAL

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY2003	FY2004	FY2005
INLS OPEVAL	0.000	0.000	2.443
RDT&E Articles Qty	N/A	N/A	N/A

INLS Design and development was accomplished in FY2003. Operation and evaluation will begin in FY2005.

R-1 SHOPPING LIST - Item No. 171-17

Exhibit R-2a, RDT&E Project Justification

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EXH	IBIT R-2a, RDT&E Project J	lustification				DATE:		February 2004
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA7	PROGRAM ELEMENT NAME Amphibious Tactical Sp				IAME AND NU Lighterage De		909	1 Colualy 2004
C. Program Change Summary: FY2004 President's Budget		FY2003 0.000	FY2 0.000	2004	FY2005 0.000			
FY2005 President's Budget		0.000	0.000	0	2.443			
Total Adjustments		0.000	0.00	U	2.443			
Summary of Adjustments: Programmatic Adjustment: OPEVAL Re	alignment				2.443			
D. Other Program Funding Summary		F)/000.4	E)/0005	F) (0000	E) (0007	E) (0000	F) (0000	T 0 11
CESE Line 6033 Amphib Equip (OF (U) Related RDT&E: n/a	FY2003 N)(Reqmt) 46.1	FY2004 3.1	FY2005 3.6	FY2006 202.1	FY2007 77.2	FY2008 97.3	FY2009 5.9	To Complete 0.00
E. Acquisition Strategy (JMLS/INLS): F. Major Performer:	LRIP contract was awarded in A	ugust 2003 with	OPN fund	ls. OPEVAL	of LRIP items	in FY05.		
Activities & Location Work Performed								
OPTEVFOR, Norfolk Va OPEVAL of L	RIP Quantities							

R-1 SHOPPING LIST - Item No. 171-18

Exhibit R-2a, RDT&E Project Justification

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	O IFOT NAME								
		45 44 5 4 11 1			<u>F</u>	ebruary	2004		
t/0204413N Am		ME AND NU							
	nphibious Ligi								
		Y 03		FY 04		FY 05			
FY			FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Cos	st Da	ate	Cost	Date	Cost	Date	Complete	Cost	of Contract
							0.000		
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R-1 SHOPPING LIST - Item No. 171-19

Exhibit R-3, Project Cost Analysis

UNCLASSIFIED

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									1						
Exhibit R-3 Cost Analysis (pa	ge 2)								DATE:			February 2	2004		
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E	ELEMENT			PROJECT	NAME AND	NUMBER						
RDT&E,N			Amphibio	us Tactic	al Spt Unit/0	204413N	Amphibious	Lighterage I	Development/	2909					
Cost Categories	Contract	Performing		otal				FY 03	1	FY 04		FY 05	Т		T
(Tailor to WBS, or System/Item	Method	Activity &		PY s			FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location		Cost			Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	/												0.000	0.000	
Operational Test & Evaluation	WR	OPTEVFO	R								2.443	03/05	0.000	2.443	
Tooling														0.000	
GFE														0.000	
Subtotal T&E				0.000	0.000		0.000		0.000		2.443		0.000	2.443	1
Contractor Engineering Support														0.000	
Government Engineering Support														0.000	
Program Management Support														0.000	
Travel														0.000	
Labor (Research Personnel)														0.000	
Overhead														0.000	
Subtotal Management				0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:															
Total Cost				0.000	0.000		0.000		0.000		2.443		0.000	2.443	
Remarks:															

R-1 SHOPPING LIST - Item No. 171-20

Exhibit R-3, Project Cost Analysis

UNCLASSIFIED

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE: Februa i	ry 2004
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA-7			R-1 ITEM NOMENO 0204571N Consolid		tems Development	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	25.974	22.460	21.644	25.920	18.605	21.643	14.108
1427 Surface Tactical Team Trainer (STTT)	8.223	14.507	8.266	5.825	5.606	5.799	6.039
2449 Distributed Shipboard Trainer		0.988					
3087 NSS Training System		0.290	0.391	0.293			
W0604/ Training Range and Instrumentation Development Systems (TRIDS)	3.126	2.216	2.050	2.128	2.616	2.665	2.716
W3093 Tactical Combat Training System (TCTS)		2.819	9.461	16.165	8.563	11.324	3.461
W2124 Air Warfare Training Development (AWTD)	1.987	1.640	1.476	1.509	1.820	1.855	1.892
X1823 Training & Modeling Systems (TMS)	10.355						
E9271 Integrated Training for TACAIR Fleet*	2.283						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The STTT will develop the Battle Force Tactical Training (BFTT) System to provide realistic Combat System level team training including a means to link surface ships together for coordinated Unit and Battle Group level training using Distributed Interactive Simulation (DIS). The migration of selected modules of the BFTT software to Windows NT from UNIX OS is underway. The Congressional adds initiate the development of the Distributed Shipboard Classroom which provides a capability for shipboard instructors to utilize current online multimedia training technology to improve the quality, quantity and effectiveness of mission critical, military, safety and administrative training mandated by OPNAV, TYCOM and Fleet directives. The Navigation Seamanship and Shiphandling (NSS) Training System effort develops integrated COTS based navigation and shiphandling trainers to support navigation team training in Fleet Concentration Areas, as well as developing and integrating shipboard virtual reality shiphandling trainers for use onboard surface ships.

The Training Range and Instrumentation Development Systems (TRIDS) program provides development of many range systems including range electronic warfare simulator, advanced weapons training systems, laser training systems, Tactical Aircrew Combat Training System (TACTS), Large Area Tracking Range (LATR), combat training system improvements and shallow water range technology.

R-1 SHOPPING LIST - Item No.

172

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE:	
	February 2004	
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204571N Consolidated Training Systems Development	
The AWTD program provides development of many aviation training systems including mission rechnology Integration Facility (ATTIF).	rehearsal simulation technologies, and the Aviation Training	
The TMS encompasses the requirements analysis and software development associated with the Joint Simulation System (JSIMS). The BFTT will develop the BFTT Electronic Warfare Trainer (I operator and team training for Fleet EW Systems.		
The Tactical Combat Training System (TCTS) will provide the Navy a replacement for the Tactical Tracking Range (LATR) system. TCTS will also provide fleet deployable instrumentation for at secondarily, the system will greatly increase the area where live instrumented training can be conducted system is planned at NAS Key West. The program incorporates an evolutionary development (in spectrum of naval platforms through weapons simulations, participant weapons system stimulation datalink.	sea training and tactics development. By providing a rangeless ducted. Initial fielding of a Non-Developmental Item (NDI) Pod ncremental) towards a system capable of supporting a broad	

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER ANI	D NAME		PROJECT NUMBE	R AND NAME		-
RDT&E, N / BA-7	0204571N Consoli	dated Training Sys	tems Development		1427 Surface Tacti	cal Team Trainer (STTT) (1427/2449/	(3087)
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		8.223	* 15.785	** 8.657	** 6.118	5.606	5.799	6.039
RDT&E Articles Qty		N/A	N/A	N/A	N/A	N/A	N/A	N/A

^{*}Includes Congressional Plus up funding for: 2449 DSC;

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Battle Force Tactical Training (BFTT) Program provides realistic joint warfare training across the spectrum of armed conflict; realistic unit level team training in all warfare areas; a means to link ships together which are in different homeports for coordinated training; external stimulation of shipboard training systems; and simulation of non-shipboard forces. BFTT uses a distributed architecture, integrating existing training systems, and uses Distributed Interactive Simulation (DIS) protocols. BFTT provides ships' Commanding Officers and Battle Group/Battle Force Commanders with the ability to conduct coordinated realistic, high stress, combat system level team training as an integral part of the Afloat Training Organization. BFTT provides a baseline capability/system that meets the Operational Requirements Document (ORD). Stimulators/Simulators (STIM/SIM) provides standardized Radio Frequency (RF), Intermediate Frequency (IF), and/or Digital injection into surface ship radars and fire control systems for training of shipboard operators/teams as part of the BFTT System. BFTT software modules are being migrated from UNIX/TAC to a Windows-NT/PC Operating System (OS). The Distributed Shipboard Classroom provides a capability for shipboard instructors to utilize current online multimedia training technology to improve the quality, quantity and effectiveness of mission critical, military, safety and administrative training mandated by OPNAV, TYCOM and Fleet directives. It initiates development of the active electronic countermeasures training capability to BEWT and to the BFTT software. NSS Training System effort develops integrated COTS based navigation and shiphandling trainers to support navigation team training in Fleet Concentration Areas, as well as developing and integrating shipboard virtual reality shiphandling trainers for use onboard surface ships.

^{**}Includes Re-Engineering Funds Alignment 3087.

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development	1427 Surface Tactical Team	n Trainer (STTT) (1427/2449/3087)

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	8.171	9.196	5.714
RDT&E Articles Quantity	N/A	N/A	N/A

Continue to develop BFTT Link simulation software; develop/integrate new s/w capabilities and system interfaces; develop BG level Display and Debrief software; NTMF integration; BFTT Shore s/w development; Training I/F development for CG47-58 (AEGIS B/L 1 & 2); shock test; debrief s/w development and Fleet Battle Experiments; develop BFTT AIC training for AEGIS; Develop BFTT/TSSS Training on FFG CORTS; CMTpc Integration; Database Architecture & Content Improvements; Common Operating Procedure (COP) for Over The Horizon (OTH) Maritime Data; Common Operating Picture for LAWEX; Fleet Generated Requirements for B/L 2.0/2.1 and Improvements to B/L 2.2 and 2/3; Objective Based Training (Integrated Phase I/II); Readiness Measurement; JSAF Integration into BFTT (1st phase): BFTT-to-Sea (multi-ship demo); database Architecture & Content Improvements; JSAF Modifications for EW (2nd Phase); Database Improvements; AEGIS B/L 7 phase 1C; SQQ-89 Weapons Control; Scenario/Data Management via SIPRNET; Remote Reset of OBTs from BOPC; Improved Data Collection; Integrate Shore Based Aviation Trainers (E-2C, SH-60B, and P3-C). Embedded TBMD Training and JSIMS Integration/engineering will be developed after FY05. All shore based combat system team training capability.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.052	1.680	1.562
RDT&E Articles Quantity	N/A	N/A	N/A

Funding is provided for the software development for the Multi-Mission Team Trainer (MMTT) Phase 2. The MMTT Phase I replaced the Device S14A13 Tactical Advanced Simulated Warfare Integrated Trainer (TASWIT), which modernized the outdated software and minimizes the life cycle cupport costs. Phase 2 replaces the Device 20F15 Tactical Advanced Combat Direction and Electronic Warfare (TACDEW) System, which drastically reduces the life cycle support of the Fleet's combat system level and battle group level team training capability.

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development	1427 Surface Tactical Team	Trainer (STTT) (1427/2449/3087)

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.988	0.000
RDT&E Articles Quantity	N/A	N/A	N/A

Congress appropriated and authorized funding for development of the Distributed Shipboard Classroom in conjunction with the Battle Force Tactical Training Improvement Program. The Distributed Shipboard Classroom provides a capability for shipboard instructors to utilize current online multimedia training technology to improve the quality, quantity and effectiveness of mission critical, military, safety and administrative training mandated by OPNAV, TYCOM and Fleet directives. The pilot project will provide on opportunity to assess the acceptance of Sailors and shipboard instructors to utilizing multimedia communications technology to accomplish individual and group training in the 24X7 work day at sea.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.991	0.990
RDT&E Articles Quantity	N/A	N/A	NA

Funding is being provided specifically for TOMAHAWK operator and team training development and integration into BFTT.

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development	1427 Surface Tactical Team	Trainer (STTT) (1427/2449/3087)

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	2.640	0.000
RDT&E Articles Quantity	N/A	N/A	N/A

This funding supports the R&D efforts associated with the OPN procurement of BFTT for 12 FFG's. The efforts that will be accomplished are software engineering, FFG Combat Direction System Data Extraction (CDS DX) Software development, hardware NRE, software design, engineering, integration and testing, as well as systems engineering.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.290	0.391
RDT&E Articles Quantity	N/A	N/A	NA

NSS Training System effort develops integrated COTS based navigation and shiphandling trainers to support navigation team training in Fleet Concentration Areas, as well as developing and integrating shipboard virtual reality shiphandling trainers for use onboard surface ships.

XHIBIT R-2a, RDT&E Project Justification				DATE: February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NAME
DT&E, N / BA-7	0204571N Consolidated Training	Systems Devel	opment	1427 Surface Tactical Team Trainer (STTT) (1427/2449/3087)
C. PROGRAM CHANGE SUMMARY:				
Funding: Previous President's Budget: (FY 04 Pres Controls)	FY 2003 8.414	FY 2004 14.969	FY 2005 8.766	
Current BES/President's Budget:	8.223	15.785	8.657	
Total Adjustments	-0.191	0.816	-0.109	
Summary of Adjustments				
FY03 SBIR	-0.170			
BSO Adjustments	-0.021			
Management Improvements		-0.043		
FFRDC Reduction		-0.005		
NWCF Rates - NSWC Rates			-0.117	
NWCF Rates - NUWC Rates			-0.004	
WCF - NSWC			0.017	
Rates - NSWC			0.027	
Inflation			-0.028	
Technical Adjustments			-0.004	
Distributed Shipboard Classroom		1.000		
Sec 8126: Efficiencies/Revis		-0.136	2 122	•
Subtotal	-0.191	0.816	-0.109	
Schedule: Not Applicable.				
Technical:				
Not Applicable.				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N.	AME
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development	1427 Surface Tactical Team	Trainer (STTT) (1427/2449/3087)

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	<u>Cost</u>
OPN 276200 (Surface BFTT portion only)	15.77	39.244	35.789	13.13	2.244	0	0	0	106.177

E. ACQUISITION STRATEGY:

The BFTT acquisition strategy for system development utilizes the spiral development model, as mandated by OSD. Incremental acquisition and fielding, utilizing commercial off-the-shelf technology to the extent possible, is in accordance with the BFTT ACAT IVM Milestone III approved documentation.

F. MAJOR PERFORMERS:

NSWC Crane, Crane, IN - BFTT System Engineering, Integration, and Testing -Award Dates 01/03 CDSA Dam Neck, Dam Neck, VA - BFTT Software Development Activity Award Dates 01/04 Department of Interior, Minerals Management, Govworks - Contracting Office Award Dates 01/05

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Total

									DATE:				
- 1 11 11 D 0 0 1 A 1 1 1 1	43												
Exhibit R-3 Cost Analysis (pa									February 2	004			
APPROPRIATION/BUDGET ACTIV	VITY		PROGRAM E				PROJECT NU	JMBER AND I	NAME				
RDT&E, N / BA-7		(0204571N Co	nsolidated Trai	ning Systems I	Development	1427 Surface	Tactical Team	Trainer (STTT)	(22449/2910	6/29107/S3087)		
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
		AAI/MD & EWA	\/WV/										
Primary Hardware Development	*	Govworks		11.498							0.000	11.498	11.498
Ancillary Hardware Development	WR	NSWC Crane/	Govworks	0.999							0.000	0.999	0.999
Component Development												0.000	,
Ship Integration												0.000	,
Ship Suitability												0.000	,
Systems Engineering	**	CDSA/NSWC (Govworks	Crane/	19.551	1.244	01/03	2.736	01/04	1.135	01/05	Continuing	Continuing	N/A
Training Development		COVWOING		10.001	1.244	01/00	0.000		0.000		Continuing	0.000	·
Training Development		CDSA/NSWC (2/				0.000		0.000			0.000	+
Licenses	WR/RCP	Govworks	Jrane/	2.169	0.173	01/03	1.321	01/04	0.142	01/05	Continuing	Continuing	N/A
Tooling												0.000	,
GFE				2.497							0.000	2.497	2.497
Award Fees				0.357							0.000	0.357	0.357
Subtotal Product Development				37.070	1.417		4.057		1.277	·	Continuing	Continuing	j

Remarks:

* AAI Contract Award 3/98 CPIF; EWA Contract Award 6/98 CPFF ** WR/RCP/MIPR/IPR

Development Support											0.000	
Software Development	*	NAWC TSD/CDSA/Govworks	37.011	4.687	01/03	8.142	01/04	5.488	01/05	Continuing	Continuing	N/A
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data	*	NAWC TSD/NSWC Crane/Govworks	8.807	0.850	01/03	1.415	01/04	0.946	01/05	Continuing	Continuing	N/A
GFE											0.000	
Award Fees											0.000	
Subtotal Support			45.818	5.537		9.557		6.434		0.000	67.347	

Remarks:

*WR/RCP/MIPR/IPR

<u> </u>									_				
Exhibit R-3 Cost Analysis (pag	10 2)								DATE: February 2	004			
APPROPRIATION/BUDGET ACTIV			PROGRAM E	LEMENIT			PROJECT NU	IMBED AND N		.004			
RDT&E, N / BA-7					nining Systems	Development				(22//0/2010	6/29107/S3087)		
Cost Categories	Contract	Performing	020437 114 00	Total	Juling Systems	FY 03		FY 04		FY 05	5/29107/33007)		T
Cost Categories	Method	Activity &		PY s	FY 03	Award		Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
		NSWC Crane											
Developmental Test & Evaluation	*	CDSA/Govwo	rks	3.70	2 0.540	01/03	1.227	01/04	0.426	01/05	Continuing		<u> </u>
Operational Test & Evaluation												0.000	
Live Fire Test & Evaluation		1										0.000)
Test Assets												0.000	,
Tooling												0.000	,
GFE												0.000	,
Award Fees												0.000	,
Subtotal T&E				3.70	2 0.540	o o	1.227		0.426	3	Continuing	Continuing	N/A
Contractor Engineering Support												0.000	ı
Government Engineering Support	*	CDSA/NSWC (Crane/ Govworks	2.67	9 0.729	01/03	0.944	01/04	0.520	01/05	Continuing		<u> </u>
Program Management Support		1										0.000	
Travel		1										0.000)
Labor (Research Personnel)												0.000	,
SBIR Assessment												0.000	,
Subtotal Management				2.67	9 0.729	9	0.944	ļ.	0.520)	Continuing	Continuing	N/A
Remarks: *WR/RCP/MIPR/IPR													
Total Cost				89.26	9 8.223	3	15.785	i	8.657	,	Continuing	Continuing	
Remarks:													

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justif	ication						DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEME	NT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0204571N Consolid	ated Training Syst	ems Development		W0604 Training Ra	ange and Instrumer	ntation Developmen	t (TRID)
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		3.126	2.216	2.050	2.128	2.616	2.665	2.716
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project develops specialized instrumentation systems for fleet readiness training while minimizing life cycle costs. Tasks include development of the following: electronic warfare simulators and associated subsystems, target control systems, Tactical Aircrew Combat Training System (TACTS), Large Area Tracking Range (LATR) improvements, combat training systems improvements, underwater technology, ranges interoperability and information architecture, and assorted Advanced Weapons Training Systems (AWTS), such as Imaging Weapons Training System (IWTS), Remote Strafe Scoring System (RSSS), and weapon and countermeasure simulations for use with various range training systems.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	İAME
RDT&E, N /BA-7	0204571N Consolidated Training Systems Development	W0604 Training Range and	Instrumentation Development (TRID)

(U) B. Accomplishments/Planned Program

Large Area Tracking Range (LATR)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.442	1.059	0.598
RDT&E Articles Quantity			

Developed Block 4.0 software upgrade, analyzed range integration requirements, and developed hardware upgrades. Redesigned, integrated and tested modules to eliminate obsolete components on the LATR power conditioner. Complete operational test and evaluation and integration of Block 4.0 software upgrade. Complete design, integration, and test of participant instrumentation packages (PIP) modules to address obsolescence, high failure components and to improve operability and performance. Conduct and complete vulnerability testing of the Ground System Rehost. Conduct and complete security testing and assessment for LATR system certification and accreditation for Ground System Rehost. Initiate and complete development, test and integration of software and hardware modifications to system test sets.

Combat Training Systems Development	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.684	1.157	1.452
RDT&E Articles Quantity			

Developed additional training capabilities for the Control and Computational Subsystem (CCS), Personal Computer Based Joint Display Subsystem (JDS), and developed a formalized interface between the CCS and Large Area Tracking Range (LATR). Complete Semi-annual CCS Block upgrades. Complete Test Set Upgrade and system rehost. Complete formalization of CCS/LATR integration.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	ation				DATE:	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NU	IMBER AND NAME		PROJECT NUMBER AN	D NAME	February 2004
RDT&E, N / BA-7	0204571N Consolidated T			W0604 Training Range a		alanment (TRID)
RDIGE, N / BA-1	020437 TN Consolidated T	raining Systems Develo	pinent	W0004 Training Nange a	and instrumentation beve	elopinent (TKID)
(U) C. PROGRAM CHANGE SUMMARY	:					
(U) Funding:		FY 2003	FY 2004	FY 2005		
Previous President's Budget:		3.065	2.241	2.057		
Current President's Budget		3.126	2.216	2.050		
Total Adjustments		0.061	-0.025	-0.007		
Summary of Adjustments						
SBIR/STTR		-0.038	-0.025			
Reprogrammings		0.099				
Economic Assumptions						
Reprioritization				-0.007		
Subtotal		0.061	-0.025	-0.007		
(U) Schedule: The following milestones	have changed and deleted to better reflect pro	ogram status:				
Bloc	From: ADDS (JDS) IOC 4Q/02 ck Upgrade 6.0 IOC 1Q/04 'R/TACTS Interface 1Q/04	To PCBJDS IOC 2 Semi-Annual Blo LATR/TACTS	Q/04 ock Upgrades I			
DELETED:						
Co	mmon Advanced Display					
`N/A	Market Survey 3Q/04 Spec Development 2Q/05 Contract 3Q/05 IOC 1Q/07					
		100000000000000000000000000000000000000				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:			
								Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT NUM	BER AND NAM	ИE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0204571N Co	nsolidated Trai	ining Systems I	Development	W0604 Trainir	g Range and l	Instrumentatio	n Development (1	ΓRID)	
(U) D. OTHER PROGRAM FUNDING SUMMARY:								То	Total	
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost	
Related OPN: Related RDT&E: Not Applicable	0.047	0	0	0	0	0	0	Cont.		

(U) E. ACQUISITION STRATEGY:

The Training Range and Instrumentation Development (TRID) program is a non-ACAT program. The integrated program teams that develop new TRID capabilities include contractors whose products and services are obtained by means of competitive awards, Indefinite Deliveries/Indefinite Quantity (IDIQ), and cost-type contracts. Individual delivery orders are awarded for specific development efforts.

CLASSIFICATION:												
						DATE:						
Exhibit R-3 Cost Analysis (pag	ge 1)								Februar	v 2004		
APPROPRIATION/BUDGET ACTIV	ITY		PROGRAM ELEMENT	PROJECT	NUMBER AND	NAME						
RDT&E, N / BA-7			0204571N Consolidated Tra	i W0604 Tra	ining Range ar	nd Instrumentation	n Developme	nt (TRID)				
Cost Categories	Contract	Performing	Total		FY 03		FY 04	1	FY 05			
Goot Gategories	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Systems Engineering and Software		Various	81.066							0.000		
Development (Misc. < \$1M)	Various	Various	01.000							0.000	01.000	1
Primary Hdw Dev. Electronics	Various	Various	0.450	0.5	98 1Q/03	0.25	6 1Q/04	0.078	1Q/05	Continuing	Continuing	1
Aircraft Integration	Various	Various	0.107	+		0.07		0.036		Continuing		·
Systems Engineering	Various	Various	0.177			0.08		0.098		Continuing		
Licenses	Various	Various	0.004							Continuing		,
Subtotal Product Development			81.804	1 0.7	83	0.41	2	0.212		Continuing	Continuing	1
Development Support (Misc. <\$1M)	Various	Various	6.759			0.20		0.289		Continuing		,
Software Dev. Electronics	Various	Various	1.044			0.42		0.575		Continuing		
Integrated Logistics Support	Various	Various	0.070			0.06		0.070		Continuing		
Configuration Management	Various	Various	0.080			0.05		0.080	1Q/05	Continuing		7
Technical Data	Various	Various	0.010	0.3	1Q/03 59 1Q/03	0.07		0.150	1Q/05	Continuing Continuing		,
Studies & Analysis	Various	Various		0.3	10/03	0.10	1Q/04	0.150	10/05	Continuing	Continuing	<u>'</u>
Subtotal Support			7.963	3 1.4	.89	0.92	5	1.164		Continuing	Continuing	1
Remarks:	•		,	,	•							

CLASSIFICATION:

Exhibit R-3 Cost Analysis (pag	ıe 2)						DATE:			February	v 2004		
APPROPRIATION/BUDGET ACTIV	ITV		PROGRAM EI	EMENT	PROJECT NU	IMRER AND N	AME			i obradi	y 2004		
RDT&E, N / BA-7			0204571N Coi		1			Dovolonment	(TDID)				
Cost Categories	Contract	Performing	020437 114 CO	Total	VVOOO4 ITAIIIII	FY 03		FY 04		FY 05		1	
Cost Categories	Method	Activity &		PY s	FY 03	Award	FY 04	Award		Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date		Date	Complete	Cost	of Contract
Developmental Test & Evaluation	Various	Various		3.918		1Q/03	0.192	1	0.160	1Q/05	Continuing	Continuing	
(Misc. <\$1M)	Various	Various		0.010	0.107	19,00	0.102	19701	0.100	1 00	Continuing	Continuing	
Operational Test & Evaluation	Various	Various		0.212	0.168	1Q/03	0.314	1Q/04	0.239	1Q/05	Continuing	Continuing	
Test Assets	Various	Various		0.022	0.076	1Q/03	0.056		0.006	1Q/05	Continuing	Continuing	
Subtotal T&E				4.152	0.431		0.562		0.405		Continuing	Continuing	
Contractor Engineering Support	Various	Various		0.125	0.100	1Q/03	0.077	1Q/04	0.076	1Q/05	Continuing	Continuing	
Government Eningeering Support	Various	Various		0.265	0.172	1Q/03	0.124		0.093	1Q/05	Continuing	Continuing	
Program Mangement Support	Various	Various		1.773		1Q/03	0.091		0.080	1Q/05	Continuing	Continuing	
Travel	Various	Various		0.020	0.025	1Q/03	0.025	1Q/04	0.020	1Q/05	Continuing	Continuing	
SBIR Assessment					0.038								
Subtotal Management				2.183	0.423		0.317		0.269		Continuing	Continuing	
Remarks:	,	,					,		,		,	,	
Total Cost				96.102	3.126		2.216		2.050		Continuing	Continuing	
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule I	Profile								Larg	e Are	ea Tra	ackin	g Rar	nge (L	.ATR)						DATE	:	Fe	ebrua	ry 20	04		
APPROPRIATION/BUDGET	ACTIVI	TY			PROC	RAM	ELEMI	ENT N	UMBE	R AND	NAM	E '	•	J · (PROJ	ECT N	IUMBE	R ANI	NAM	ΙE			,			
RDT&E, N / BA-7	1				02045	71N C	onsoli	dated ⁻	Trainin	g Syste	ems D	evelop	ment				W060	4 (TRI	D) Larg	ge Are	a Trac	king R	ange	,				
Fiscal Year		200	03			2004 2005 2006								20	07		2008				2009							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
Block 4.0 LATR Upgrade																												
Block 4.0 LATR Upgrade DT-III																												
LATR Power Conditioner OT&E																												
LATR Multi-GIS OT&E LATR GPS REC OT&E LATR ADIU OT&E)																
LATR Recertification																												
Block 5.0 LATR Upgrade																												
Deliveries																												

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
Large .	Area Tracking Ra	nge (LATR)					February 2	2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&BA-7	0204571N Co	nsolidated Train	ning Systems D	Development	W0604 (TRID)	Large Area Tr	racking Range	
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Block 4.0 LATR Upgrade IOC		1Q-3Q						
Block 4.0 LATR Upgrade DT-III		1Q						
LATR GPS REC OT&E				2Q-3Q				
LATR ADIU OT&E				2Q-3Q				
LATR Recertification			2Q-4Q					
Block 5.0 LATR Upgrade IOC		4Q	1Q-4Q	1Q				

CLASSIFICATION:

EXHIBIT R4, Schedule Pr	rofile																				DATE	:						
								С	omb	at Tra	ining	y Sys	tem C	evel	opme	nt							F	ebrua	ry 20	004		
APPROPRIATION/BUDGET A	CTIVIT	Υ																ECT N										
RDT&E, N / BA-7	1				02045	71N C	onsoli	dated	Trainin	g Syst	ems D	evelop	ment				W060	4 (TRI	D) Cor	nbat T	raining	Syste	ms De	velopn	nent			
Fiscal Year	2003			2004				2005			2006			2007			2008			2009								
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
JDS IOC																												
Semi-Annual Blk Upgrade IOC																												
LATR/TACTS Interface																												
Test Set Rehost Dev PDR CDR T&E IOC																												
Deliveries									CLIO						170													

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 $^{^{\}star}$ Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:			
	Combat Training Systems	Development					February 2	2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT	IMBER AND NAME						
RDT&BA-7	0204571N Co	nsolidated Train	ning Systems D	W0604 (TRID) Combat Training Systems Development					
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
PCBJDS IOC		1Q-4Q	1Q-2Q						
Semi-annual Block Upgrades IOC		1Q - 4Q	1Q-4Q	1Q-4Q					
LATR/TACTS Interface		1Q - 4Q	1Q-3Q						
Test Set Rehost			1Q-4Q						
PDR CDR			1Q 3Q						
T&E			4Q	1Q					
IOC			700	1Q 1Q					
					<u> </u>				
	+				+				
					1				
					1				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AN	D NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7 0204571N Consolidated Training Systems Development W3093 Tactical Combat Training Systems					tem (TCTS)			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			2.819	9.461	16.165	8.563	11.324	3.461
RDT&E Articles Qty			4	2	1			

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Tactical Combat Training System will provide the Navy a replacement for major portions of the Tactical Aircrew Combat Training System (TACTS) and Large Area Tracking Range (LATR) system. TCTS will also provide fleet deployable training for at sea training and tactics development. By providing a rangeless capability, the system will greatly increase the area where live instrumented training can be conducted. Initial fielding of a Non-Developmental Item (NDI) Pod system is planned at NAS Key West. The program incorporates an evolutionary development (incremental) towards a system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation, open architecture and a high capacity/long range secure data link.

R-1 SHOPPING LIST - Item No.

172

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME	
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development	W3093 Tactical Combat Trai	ining System (TCTS)	

B. Accomplishments/Planned Program

Tactical Combat Training System	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	2.819	9.461
RDT&E Articles Quantity		4	2

Qualify and complete the NDI Rangeless Pod system for use at small range. Develop and deliver Integrated Logistics products for fielding the NDI pod at NAS Key West. Develop F/A-18 (C/D/E/F) Internal Subsystem (IS). Initiate testing of TCTS system for deployed airwing training. Initiate development of instrumentation package for rotary win g and transport aircraft. Develop and implement track exchange interface between TCTS live monitor and TACTS Control and Computation Subsystem (CCS). Define Test and Training Enabling Architecture (TENA) compliant interface between TCTS and an Advance Display System. Develop and deliver Integrated Logistics products for the IS and for fielding the TCTS system aboard deployed carriers.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	
RDT&E, N / BA-7		W3093 Tactical Combat Tra	
C. PROGRAM CHANGE SUMMARY:			
Funding:	FY 2003 FY 2004	FY 2005	
Previous President's Budget:	0.000 2.851	7.862	
Current President's Budget:	0.000 2.819	9.461	
Total Adjustments	0.000 -0.032	1.599	
Summary of Adjustments			
Congressional Undistributed Reducti	ons -0.032		
Economic Adjustments		0.023	
Reprioritization		1.576	
Subtotal	-0.032	1.599	
Schedule: The following milestones have changed to	petter reflect program status:		
To:		From:	
Phase 1 NDI Transportable (TGS, AS) FY04 1	Q/4Q Phase 1 NDI Transportable (
Phase 2 Shipboard (SGS, IS) FY04 1Q/4Q	Phase 2 Shipboard (SGS,		
Technical:			
Not Applicable			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:			
								Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT NUM	BER AND NAM	ΛE	PROJECT NU	MBER AND N	IAME			
RDT&E, N / BA-7	0204571N Cor	solidated Train	ning Systems [Development	W3093 Tactica	al Combat Trai	ining System (7	TCTS)		
D. OTHER PROGRAM FUNDING SUMMARY:								То	Total	
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost	
Related OPN: Related APN:	0 0	1.188 7.217	2.291 8.505	3.780 15.002	8.402 19.311	6.450 22.609	7.525 28.072	Cont. Cont.		

E. ACQUISITION STRATEGY:

TCTS will employ an evolutionary acquisition strategy to procure a base Non-Developmental Item System and evolutionary development of the system to meet the full Ord requirements. TCTS will be a cooperative program with the USAF P5 CTS program. The USAF awarded a 10 year contract in June 2003. This contract includes development options for the TCTS projects listed above.

CLASSIFICATION:																
							DATE:									
Exhibit R-3 Cost Analysis (pa APPROPRIATION/BUDGET ACT	age 1)											February	/ 2004			
	IVITY		PROGRAM E			NUMBER AND										
RDT&E, N / BA-7	10	In	0204571N Co		ail W3093 Ta	ctical Combat T	raining Syste			1		E)/ 05	1		Γ	Г
Cost Categories	Method	Performing Activity &		Total PY s	FY 03	FY 03 Award	FY 04		FY 04 Award	FY 05		FY 05 Award	Cost to		Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost		Date	Cost		Date	Complete		Cost	of Contract
Primary Hdw Dev. Electronics	CPIF	Cubic, San Di	iego					1.783			2.415			6.841	11.0	
Timary Flaw Bov. Electronice	01 11	Gubio, Guil Bi	logo					1.700	19001	-		19000		0.011	11.0	11.000
O hard Brook of Brooks and								4 700			0.445			0.044	44.0	20
Subtotal Product Development								1.783			2.415			6.841	11.0	39
Software Dev. Electronics	CPIF	Cubic, San Di	iego								3.411	1Q/05		34.661	38.0	72 38.072
Integrated Logistics Support	Various	Various	-				(0.230	1Q/04		0.579	1Q/05	Co	ontinuing		
Subtotal Support							-	0.230			3.990		Co	ntinuing	Continu	ng
Remarks:																
						NT 11 N1 .	470									

CLASSIFICATION:													
							DATE:						
Exhibit R-3 Cost Analysis (pag	ge 2)	February 2004											
Exhibit R-3 Cost Analysis (pagaPPROPRIATION/BUDGET ACTIV	İTY		PROGRAM EI	LEMENT	PROJECT I	NUMBER AND N	VAME						
RDT&E, N / BA-7			0204571N Co	nsolidated Trai	W3093 Tac	ctical Combat Tra	aining System (T	CTS)					
Cost Categories	Contract	Performing	-1	Total		FY 03		FY 04		FY 05			
-		Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	WX	NAWC-AD PF	R				0.082	1Q/04	0.833	1Q/05	Continuing	Continuing	,
(Misc. <\$1M)													
Test Assets													
			,										
Subtotal T&E							0.082		0.833		-		
Contractor Engineering Support	CPIF	Cubic, San Die	go	Ι	l	1	0.040	1Q/4Q	0.518	1Q/05	0.562	1.120	1.120
Government Engineering Support Program Mangement Support		NAWC-AD PR					0.384		1.300	1Q/05	Continuing	Continuing	
Program Mangement Support		NAWC-AD PR					0.240		0.310	1Q/05	Continuing	Continuing	
Travel	WR	NAWC-AD PR		<u> </u>			0.060	1Q/04	0.095	1Q/05	Continuing	Continuing	
		<u> </u>		_								 	
Subtotal Management						-	0.704		2.223		0	Continuing	<u> </u>
Subtotal Management							0.724		2.223		Continuing	Continuing	
Remarks:													
Total Cost				0.000	0.0	000	2.819		9.461		Continuing	Continuing	ı
Remarks:													

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R4, Schedule Pro	ofile															
APPROPRIATION/BUDGET AG									RAM E							
RDT&E, N /	BA-7		1					02045	71N C	onsolio	dated T	rainin	g Syste	ems De	evelopr	nent I
Fiscal Year					200	03			200)4			200	05	1	
				1	2	3	4	1	2	3	4	1	2	3	4	
Acquisition Milestones ORD Approval							nase 1 nase 2					PI PI	nase 2 nase 3	MS C MS B	Phase A	PMASSAB3 MS C
Acquisition Phase Phase 1 NDI - Transportable (TGS Phase 2 Shipboard (SGS, IS) Phase 3 Fixed Range (FGS, RS, C Phase 4 Advanced Datalink																
Participant Subsystem Dev Internal Subsystem Rack Mounted Subsystem																
Ground Subsystem Dev Track Interface Uplink Control ECE/CGTS Development											;					
Test & Evaluation Milestones																
Phase 1 (NDI) DTB1-1, DTB1-2/ Phase 2 DTB2-1, 2-2A, 2B, 2-3, 2 Phase 3 DTB3-1, 3-2, 3-3, 3-4, 3	2-4, 2-5, OTI	B2-1														
Production Milestones								\LRIP								RP
Phase 1 NDI - Transportable (TGS Phase 2 Shipboard (SGS, IS) Phase 3 Fixed Range (FGS, RS, C Phase 4 Advanced Datalink								ZEM			<u> </u>	RIP		LF	RIP	RP RP RIP
Deployments IOC														V	7	Lemoore
					UN	CL	ASS	SIFI	ED		R-1	SHO	PPIN	Rey G LIS	T - Ite	hammat Cherry Pt m No. 172 (Exhibit R-4, page 27 c

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:				
							February 2	2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NAME				
RDT&BA-7	0204571N Co	nsolidated Train	ning Systems D	W3093 Tactica	actical Combat Training System (TCTS)					
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
ORD Approval		4Q								
Phase 1 NDI - Transportable (TGS, AS)			1Q-4Q	1Q-4Q						
Phase 2 Shipboard (SGS, IS)			1Q-4Q	1Q-4Q						
Phase 3 Fixed Range (FGS, RS, CGTS)			4Q	1Q-4Q						
Phase 4 Advanced Datalink										
Phase 1 MS C			1Q							
IOC Key West				4Q						
IOC Lemoore										
Phase 2 MS B			1Q							
Phase 2 MS C				3Q						
IOC CVW-5										
Phase 3 MS B				3Q						
Phase 3 MS C										
IOC Oceana										
IOC Fallon										
IOC Beaufort										
IOC Yuma										
IOC Cherry Pt										
Phase 4 MS B										
Phase 1 DT/OT			4Q	1Q-2Q						
Phase 2 DT/OT				4Q						
Phase 3 DT/OT										
						_				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0204571N/Consolidated Training Systems Development W2124/Air Warfare Training Development					ment		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		1.987	1.640	1.476	1.509	1.820	1.855	1.892
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project transitions new training system technologies for use in naval aviation training. Products from this effort are directly tied to the Navy and Marine Corps Aviation Simulation Master Plans (\$479M), the MH-60R/S master plan, the Multi-Mission Maritime Aircraft (MMA) program, and will support the development and design of future naval aviation training/mission rehearsal systems. Tasks include: 1) Advanced training systems specification development to provide for modular, High Level Architecture (HLA) compliant, high fidelity Distributed Mission Training (DMT) and mission rehearsal capabilities, ashore and afloat. Mission rehearsal is defined as the practice of planned tasks and functions critical to mission success using a true-to-life, interactive representation of the expected operating environment. Technologies to be developed and integrated include: 1) DMT weapons server, weather server, common mission training stations, high resolution helmet mounted, and/or flat panel displays, photographic quality image generation, portable source initiative (PSI) database reuse, advanced environmental effects modeling, fused radar/infra-red/electro-optic and acoustic sensor simulations, physics-based IR stimulations; and 2) the Aviation Training Technology Integration Facility (ATTIF), which is a man-in-the-loop test bed for the integration of software, hardware, and networked systems. New technologies will include intelligent computer generated forces (CGFs) as virtual and constructive entities for threat or friendly interaction. Additionally, "man-in-the-loop" intelligent agents will be integrated to the ATTIF, including an HLA node for participation and benchmarking fleet exercises in the synthetic battle space. This ATTIF capability provides a window to fleet aviators for critical comment, evaluation, and fine tuning of new and innovative technologies before final transition to the Fleet. Debrief/AAR and intelligent training support tools are focused on human performance enhancements for Fleet readiness exe

Metrics - These technology transitions will both lower total ownership costs (TOC) of the training systems (life-cycle visual system database re-use, reduced instructor manning profiles, software-based fidelity enhancements), and increase fleet readiness by enhancing overall system fidelity to the projected operating environments. NASMP/MCSMP readiness improvements are conservatively forecast at 14-28% following associated technology upgrades to stand alone, or networked simulators.

R-1 SHOPPING LIST - Item No.

172

CLASSIFICATION:

February 2004 APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME	
ADDDODDIATION/DUDGET ACTIVITY DDOCDAM ELEMENT NUMBED AND NAME DDO JECT NUMBED AND NAME	
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME	
RDT&E, N / BA7 0204571N/Consolidated Training Systems Development W2124/Air Warfare Training Development	

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.860	0.623	0.372
RDT&E Articles Quantity			

Develop and integrate (ATTIF) modular architecture components for Navy DMT, deployable E-2C crew station, intelligent synthetic forces, and tactical scenario control. Demonstrate low-cost DMT configurations, while maintaining or increasing fidelity. Demonstrate low cost training and mission rehearsal configurations and evaluate variable fidelity cockpits. Demonstrate instructor support technology including advanced scenario generation, multi-SAF control, automated measures of performance (MOP), and debrief/AAR products for NASMP. Analyze GOTS/COTS alternatives for network centric warfare connectivity in the simulated battlespace, while reducing training system life cycle costs.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.519	0.476	0.527
RDT&E Articles Quantity			

Integrate IR (NVG & Forward Looking Infra-Red (FLIR) sensor simulation)) with Sensor Host government software. Perform risk reduction, integration and productization of Sensor host for Navy DMT and legacy devices. Demonstrate GOTS capability for cost-effective database materialization, and develop PSI/RSD specifications for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs. Develop texture storage, PSI material reference processes/standards, and automated applications for R/T publishing, R/T shadows, R/T combat effects, and very high resolution visuals.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.408	0.344	0.275
RDT&E Articles Quantity			

Develop/specify and evaluate intelligent training support tools (ITST) for application to NASMP, MH-60R, MMA, and large scale coalition-level battle exercises. Specify, test and integrate human performance-centered design into NASMP common components, the ATTIF/DMT testbed, and deployable systems. Develop automated performance measurement and after-action review (AAR) specifications and products that increase instructor efficiency and training efficacy in a reduced instructor manning environment.

R-1 SHOPPING LIST - Item No. 172

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 30 of 37)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N / BA-7	0204571N/Consolidated Training Systems Development	W2124/Air Warfare Training	Development

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.200	0.197	0.302
RDT&E Articles Quantity			

Provide for upgraded and modular Mission Training Station (MTS) designs to lower NASMP/platform simulator life-cycle costs, improve instructor effectiveness and provide for multi-SAF exercise utilization. Analyze, develop, and integrate (ATTIF) modular architecture components for F/A-18 cockpit avionics, MH-60R avionics, intelligent instructor operator agents, small footprint E-2C, TACAIR/MMA common GUI initiatives, and intelligent synthetic forces. Upgrade common IOS/MTS human interface to be Joint Mission Planning System (JMPS) compatible, next generation threat system (NGTS) compatible, MCSMP TEN compatible, and JSAF compatible, thereby maximizing ROI for mission training station-related technology investments for multi-platform exercises.

CLASSIFICATION:

KHIBIT R-2a, RDT&E Project Justification					DATE:
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND N	February 2004
DT&E, N / BA-7	0204571N/Consolidated Training			W2124/Air Warfare Training	
	020407 THE CONSONICATION TRAINING	Cystoms Deve	юртноги	VVZ1Z-4// III VVallate Trailing	Development
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	2.065	1.658	1.499		
Current BES/President's Budget	1.987	1.640	1.476		
Total Adjustments	-0.078	-0.018	-0.023		
Summary of Adjustments					
Congressional program reduction					
Congressional undistributed redu	ctions				
Congressional rescissions	2 224				
SBIR/STTR Transfer	-0.031		0.004		
Economic Assumtions			-0.004		
Sponsor/FMB/NAVAIR Adj.	0.047				
Reprogrammings	-0.047				
Congressional increases		0.040	0.040		
Reprioritization Subtotal	-0.078	-0.018 -0.018	-0.019 -0.023		
Gubiotal	-0.070	-0.010	-0.023		
Schedule:					
Planned return on investment negatively impwill slip from FY06 to FY07.	acted. MTS/Common Instructor Operat	or Station spec	ifications will	slip from FY04 to FY05. Vis	sual display solutions for deployed simulation
will stip from 1 100 to 1 107.					
Technical: Not applicable.					
	D 4 CHODD			170	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:	
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0204571N/Consolidated Training Systems Development	W2124/Air Warfare Training Development	
D. OTHER PROGRAM FUNDING SUMMARY:			To Total

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	l otal <u>Cost</u>
APN Line 33. BA-7 (47C2) Commond Ground Equi Equipment (USMC Federation Simulators)	21.109	3.027	0.000	19.841	24.386	15.183	22.359		105.905
APN Line 23. BA-7 (47C2) Commond Ground Equipment (Fleet Aircrew Simulator Training (FAST))	54.423	30.749	64.312	95.502	55.658	58.264	59.017		417.925

Related RDT&E

(U) P.E. 0604245N, Project # H2279, Sub-Project Title: USMC H-1 Upgrades

E. ACQUISITION STRATEGY:

Air Warfare Training Development (AWTD) is a joint 6.4 R&D technology transition team, tied closely to the Navy and Marine Corps Aviation Simulation Master Plans. A true, multidisciplinary, joint Integrated Product Team (IPT) approach is utilized through a combination of reimbursable and direct cite/MIPR contract processes to accomplish the IPT's principal objectives. These technology transitions continue to successfully target improvements in fleet readiness, and reductions in total system life cycle costs.

F. MAJOR PERFORMERS:

CLASSIFICATION:

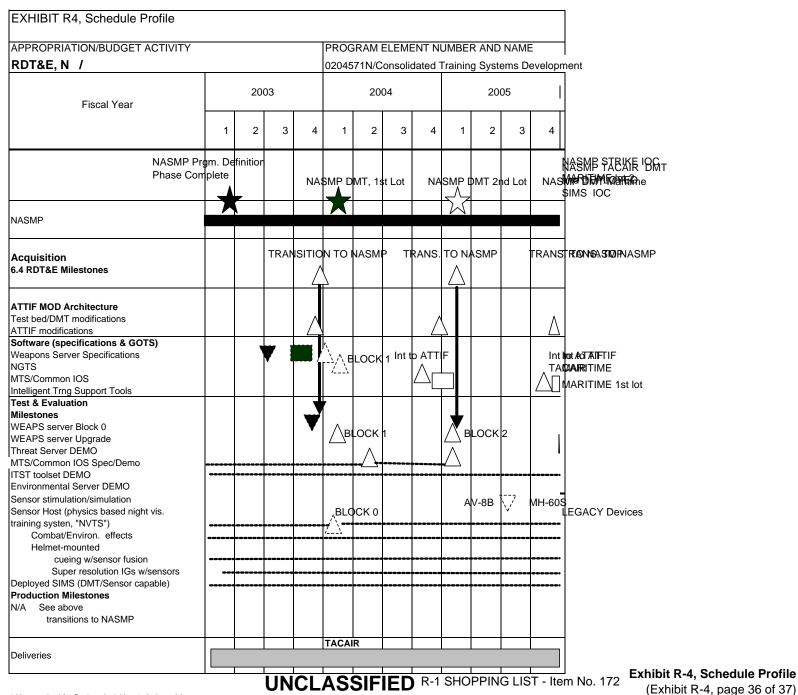
									DATE:				
Exhibit R-3 Cost Analysis (p	age 1)										February 200	04	
APPROPRIATION/BUDGET ACT	IVITY	PROGRAM I	ELEMEN	T			PROJECT NU	JMBER AND	NAME				
RDT&E, N / BA-7			onsolidat	ed Trai	ning Systems I	Development	W2124/Air Wa	arfare Trainin	g Development				
Cost Categories	Contract Method	Performing Activity &	Total PY s		FY 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	Location	Cost		Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Systems Engineering	MIPR	Air Force Research Lab		1.905			0.460		0.457		Continuing	<u> </u>	i e
Systems Engineering	WX&PID	NAWCTSD, NAMRL	+	3.818			0.540		0.350		Continuing	<u> </u>	1
Systems Engineering	MIPR	ONR	+	0.120			0.000		0.000		0.000		
Systems Engineering	WX	NAWCWD		0.753			0.000		0.000	1	0.000		
Systems Engineering	MIPR	USAF ACADEMY		0.040			0.000)	0.000		0.000		1
Systems Engineering	WR	NPGS		0.090							Continuing	Continuing	
Subtotal Product Development				6.726	1.153	3	1.000)	0.807		Continuing	Continuing	
Trainer Development Support	RX/PID	NAWCAD		0.539	0.163	11/02	0.155	11/03	0.157	11/04	Continuing	Continuing	
Subtotal Support				0.539	0.163	3	0.155	5	0.157	'	Continuing	Continuing	
Remarks: N/A													
<u> </u>				01105	DINIO LIOT		470						

CLASSIFICATION:

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Fullitie D. O. o. et A. e. L. e. e. e.	0)								DATE:		E-1	0.4	
Exhibit R-3 Cost Analysis (pa	ge 2)		IDDOODAME	LENGENIE			IDDO IDOT NII	IMPED AND	NAME		February 20	04	
APPROPRIATION/BUDGET ACTIVE RDT&E, N / BA-7	/II Y		PROGRAM E			D	PROJECT NU						
	0	Dantamaina	02045/1N/C0		aining Systems	FY 03	VV2124/Air VV		g Development	FY 05	1		1
Cost Categories	Contract Method	Performing Activity &		Total PY s	FY 03	Award	FY 04	FY 04 Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	WX	NAWCAD		3.16			0.465		0.492		Continuing		
Developmental Test & Evaluation	WX	NCTAMSLAN	NT	0.56				11,00				0.564	
													4
													1
Subtotal T&E				3.72	9 0.63	9	0.465	5	0.492		Continuing	Continuing	1
Travel	WX	NAWCAD		0.1	2 0.03	2 11/02	0.020	11/03	0.020	11/04	Continuing	Continuing	j
Subtotal Management				0.1	2 0.03	2	0.020)	0.020)	Continuing	Continuing	j
Remarks:													
Total Cost				11.10	1.98	7	1.640		1.476	;	Continuing	Continuing	J
Remarks:													

CLASSIFICATION:

UNCLASSIFIED



CLASSIFICATION:

Exhibit R-4a, Schedule Detail							ebruary 20	04	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND NAME			
RDT&BA-7	0204571N/Co	nsolidated Trai	arfare Training I	rfare Training Development					
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
Transition to NASMP	4Q		1Q						
ATTIF MOD Architecture									
Test bed/DMT modifications									
ATTIF modifications	4Q	4Q	4Q						
Software (specifications & GOTS)									
BLOCK 1		1Q							
Int to ATTIF		4Q							
Int to ATTIF TACAIR			4Q						
Int to ATTIF MARITIME									
MARITIME									
Test and Evaluation									
WEAPS server Upgrade BLOCK 1		1Q							
WEAPS server Upgrade BLOCK 2			1Q						
WEAPS server Upgrade MARITIME									
MTS/Common IOS Spec/Demo		2Q	1Q						
ITST toolset DEMO									
Sensor Host physics based NVTS		1Q							
Combat/Environ. Effects									
Helmet-mounted cueing w/sensor fusion									
Super resolution IGs w/sensors									
Deployed SIMS (DMT/Sensor capable)									

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE:			
									Febru	uary 2004	
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NO	MENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALUAT	ION, NAVY /	<u> </u>	BA-7			PE 0204574N Advanced Cryptologic Systems Engineering					
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Total PE Cost	0.000	0.000	0.000	1.448	1.460	1.466	1.465	1.467	1.469	Continuing	Continuing
3091 / Advanced Cryptologic Systems Engineering				1.448	1.460	1.466	1.465	1.467	1.469	Continuing	Continuing
<i>"</i> " " " "											0.000
	†										0.000
											0.000
											0.000
											0.000
											0.000
Quantity of RDT&E Articles											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Advanced Cryptologic Systems Engineering program develops state-of-the-art signal acquisition software in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximately 100 cryptologic capable surface ships in the current Navy inventory. Each of these ships is a potential user of this carry-on equipment, depending on deployment schedules and the tempo of operations. In addition, there are numerous subsurface and air platforms that are also potential users. This funding line will provide the necessary and proper resources to enable rapid transition of available Commercial Off The Shelf (COTS) and Government Off The Shelf (GOTS) technologies that apply to Fleet requirements for carry-on system functionalities. These technologies typically require various levels of integration to leverage on-board systems that provide system and mission management, product reporting and data analysis. COTS/GOTS system documentation and training materials usually requires some level of adaptation or modification to meet fleet operator requirements, or entirely new training materials may need to be developed. Before deployment for operational use, systems must be systematically training materials may need to be developed. Before deployment for operational use, systems must be systematically training materials usually requirements. Additionally, the future Maritime Cryptologic Architecture (MCA) realized under Ships Signals Exploitation Equipment (SSEE) Increment E and subsequent increments will be procured under Cryptologic Carry-On Equipment as a future carry-on Advanced Cryptologic Carry-on Equipment (ACCES) system starting in FY04. This RDT&E will provide resources to address rapid deployment of enhancements or improvements to the common hardware and/or software baseline to meet emergent requirements.

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under BA-7, OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing operational systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT NUM	BER AND NAM	ЛE		PROJECT NU	IMBER AND N	AME			
RDT&E, N / BA-7	PE 0204574N	Advanced Cry	yptologic Syste	ms Engineering	I	3091 / Advar	nced Cryptolog	gic Systems E	Engineering		
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost				1.448	1.460	1.466	1.465	1.467	1.469	Continuing	Continuing
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Advanced Cryptologic Systems Engineering program develops state-of-the-art signal acquisition software in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximately 100 cryptologic capable surface ships in the current Navy inventory. Each of these ships is a potential user of this carry-on equipment, depending on deployment schedules and the tempo of operations. In addition, there are numerous subsurface and air platforms that are also potential users. This funding line will provide the necessary and proper resources to enable rapid transition of available Commercial Off The Shelf (COTS) and Government Off The Shelf (GOTS) technologies that apply to Fleet requirements for carry-on system functionalities. These technologies typically require various levels of integration to leverage on-board systems that provide system and mission management, product reporting and data analysis. COTS/GOTS system documentation and training materials usually requires some level of adaptation or modification to meet fleet operator requirements, or entirely new training materials may need to be developed. Before deployment for operational use, systems must be systematically tested to ensure suitable and reliable operation, tested for network vulnerabilities if connected to shipboard LANs, and tested relative to interoperability requirements. Additionally, the future Maritime Cryptologic Architecture (MCA) realized under Ships Signals Exploitation Equipment (SSEE) Increment E and subsequent increments will be procured under Cryptologic Carry-On Equipment as a future carry-on Advanced Cryptologic Carry-on Equipment (ACCES) system starting in FY04. This RDT&E will provide resources to address rapid deployment of enhancements or improvements to the common hardware and/or software baseline to meet emergent requirements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME
RDT&E, N / BA-7	PE 0204574N Advanced Cryptologic Systems Engineering	3091 / Advanced Cryptolog	gic Systems Engineering

(U) B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			1.448	1.460
RDT&E Articles Quantity				

Cryptologic Carry-On Equipment

FY04 - Integrate, test and document identified Commercial and Government off-the-shelf technologies and subsystems that meet emergent and on-going Fleet requirements. Develop and integrate software and/or hardware improvements to Advanced Carry-on Cryptologic System (ACCES) baseline.

FY05 - Continue to integrate, test and document identified Commercial and Government off-the-shelf technologies and subsystems that meet emergent and on-going Fleet requirements. Develop and integrate software and/or hardware improvements to Advanced Carry-on Cryptologic System (ACCES) baseline.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE:	
							February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	IENT NUMBER	AND NAME		PROJECT NUMBER AND N	AME	
RDT&E, N / BA-7	PE 0204574N Ad	vanced Cryptolo	gic Systems E	ngineering	3091 / Advanced Cryptolo	gic Systems Engi	neering
(U) C. PROGRAM CHANGE SUMMARY:							
(U) Funding:		FY 2003	FY 2004	FY 2005			
Previous President's Budget:		0.000	1.466	1.468			
Current BES/President's Budget	_	0.000	1.448	1.460	-		
Total Adjustments		0.000	0.018	0.008			
Summary of Adjustments							
Sec. 8094: Management Improvements		0.000	-0.004	0.000			
Sec. 8125: Efficiencies/Revised Econ.	Assumptions	0.000	-0.012	0.000			
PBD 430 WCF - R&D - SPAWAR		0.000	0.000	-0.001			
PBD 426 Rates - SSC		0.000	0.000	0.001			
PBD 604 - Inflation/Non purchase inflation	tion	0.000	0.000	-0.005			
Misc. Navy Adjustments	_	0.000	-0.002	-0.003	-		
Subtotal		0.000	-0.018	-0.008			
(U) Schedule:							
Not Applicable							
, , , , , , , , , , , , , , , , , , ,							
(U) Technical:							
Not Applicable							
l .							

CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justification							DATE:				
								Febru	ary 2004		
PPROPRIATION/BUDGET ACTIVITY	PROGRAM E	EMENT NUM	BER AND NAN	ΛE	PROJECT NU	MBER AND N	AME				
RDT&E, N / BA-7	PE 0204574N	Advanced Cr	yptologic Systems Engineerin 3091 / Advanced Cryptologic Systems Engineering								
				•			•		_		
(U) D. OTHER PROGRAM FUNDING SUMMARY:								To	Tatal		
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total <u>Cost</u>		
Line item No. & Name	1 1 2003	1 1 2004	1 1 2003	1 1 2000	<u>F1 2007</u>	<u>F1 2008</u>	<u>FT 2009</u>	Complete	<u>C051</u>		
OPN Line 3501	20.073	18.511	19.64	19.079	20.601	20.414	19.855	Continuing	Continuing		
	2.477	2.602	2.948	2.909	3.064	3.086	3.212	Continuing	Continuing		

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to SSC-Charleston, SSC-San Diego and miscellaneous contractors, with management oversight by SPAWAR.

CLASSIFICATION:

PROGRAM ELEMENT PE 0204574N Advanced Cry			PROJECT NU	MRER AND N	AME		February 200	4	
PE 0204574N Advanced Cry			PROJECT NU	MRER AND N	A NA E				
				MDEIC / MIND IN	AIVIL				
Total		FY 03		FY 04		FY 05		-	
PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date		Award Date			Target Value of Contract
0031	0031	Duto	0031	Date	0031	Date	Complete	0.000	or contract
								0.000	
								0.000	
								0.000	
								0.000	
			0.166	12/03	0.166	12/04	Continuing	Continuing	Continuing
								0.000	
								0.000	
								0.000	
								0.000	
								0.000	
0.000	0.000		0.166		0.166		Continuing	Continuing	Continuing
								0.000	
			0.982	12/03	1.000	12/04	Continuing	Continuing	Continuing
							Continuing	Continuing	Continuing
							Continuing	Continuing	Continuing
								0.000	
								0.000	
								0.000	
								0.000	
0.000	0.000		0.982		1.000		Continuing	Continuing	Continuing
	0.000	0.000	0.000					Continuing Continuing	0.982 12/03 1.000 12/04 Continuing

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (page	ge 2)										February 20)4	
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E				PROJECT N						•
RDT&E, N / BA-7					ptologic Syste		ring 3091 / Advan				•		•
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	7, -						0.050		0.050		Continuing		
Operational Test & Evaluation												0.000	
Live Fire Test & Evaluation												0.000	
Test Assets												0.000)
Tooling												0.000	
GFE												0.000)
Award Fees												0.000)
Subtotal T&E				0.000	0.000)	0.050		0.050		0.000		
		_											
Contractor Engineering Support												0.000)
Government Engineering Support												0.000)
Program Management Support							0.215	Various	0.207	Various		0.422	<u> </u>
Travel							0.035	Various	0.037	Various		0.072	<u>,</u>
Transportation												0.000	j .
SBIR Assessment												0.000	,
Subtotal Management				0.000	0.000)	0.250)	0.244		0.000	0.494	+
Remarks:													
Total Cost				0.000	0.000)	1.448	3	1.460		Continuing	Continuing	ı
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE		F	ebrua	ry 20	04		
APPROPRIATION/BUDGE														R AND											D NAN							
RDT&E, N /	BA-7	•			1				PE 02	04574	N Adv	anced	Crypto	ologic S	system	s Engi	neering	g			3091	/ Advai	nced C	ryptol	ogic S	ystems	Engin	eering				
Fiscal Year		20	02			20	03			20	04			20	05			20	06			20	07			20	800			200	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
Prototype Phase																																
System Development										SDR				SDR				SDR				∑ SDR				△ SDR				SDR		
HW/SW Delivery															7					7											<u></u>	
Software																																
Test & Evaluation Milestones											OA				OA				OA				OA				OA				OA	
Operational Assessment															\triangle				\triangle				\triangle									
Production Milestones																																
Delivery																																

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		0.4
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			I	l	ebruary 20	04
RDT&E, N / BA-7				ms Engineering				
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
System Design Review (SDR)			2Q	2Q	2Q	2Q	2Q	2Q
Operational Assessment (OA)			3Q	3Q	3Q	3Q	3Q	3Q
HW/SW Delivery			3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q	3Q/4Q

		Exhibit R-	2, RDT&E Bud	get Item Justifi	cation			Date	e: February 2004	4
APPROPRIATION/BUDGET ACT RDT&E,N /7	ΓΙVΙΤΥ				R-1 ITEM NOM	ENCLATURE lectronic Warfare	(EW) Dandings	Cummont		
,			`		1	1				
COST (\$ in Millions)	FY 02	FY 03	FY 04	FY05	FY06	FY07	FY08	FY09	TO COMPLETE	TOTAL
Information Warfare/Z2263	4.404	14.635	7.691	5.874	9.786	8.699	8.876	9.053	CONT	CONT
Quantity of RDT&E Articles	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. Mission Description and Budget Item Justification

The Naval Information Warfare Activity (NIWA) serves as the Program Manager for the Offensive Information Warfare (IW) program. As such, NIWA is tasked as the Navy's principal technical agent to research, assess, develop, and prototype IW capabilities. The key focus is to provide tactical commanders with both an IW Mission Planning, Analysis and Command and Control Targeting System (IMPACTS) tool and state-of-the-art Electronic Attack (EA) hardware and software. This project will continue with the development and integration of EA systems (e.g., USQ-146) onto various platforms through the out-years. Ongoing software efforts are to identify and develop IW planning and execution tools, as well as computer network operations capabilities. In addition, NIWA is responsible for the management of the Navy Vulnerability Assessment Counter-Measures program (NVACM), which assesses information systems in the design phase to ensure security confidence/integrity of fielded capabilities.

FY03 reduction is for various minor reductions including Small Business and Innovative Research (SBIR). Delta in FY05 is due to realignment toZ2462 (Retract Barley). Details of Retract Barley are held at a higher classification

		Exhibit	R-2a, RDT&			Date: February 20	004		
APPROPRIATION/BUDGET A	CTIVITY	PR	OGRAM ELEM	PROJECT NA	ME AND NUME	BER			
RDT&E,N /7		02	04575N		Information W	arfare/Z2263			
Cost (\$ in Millions)	FY 02	FY 03	FY 04	FY 05					
Project Cost	4.404	14.635	7.691	5.874					
RDT&E Articles Qty	N/A	N/A							

A. Accomplishments/Planned Program

FY2003 Accomplishments

- (3.0) IMPACTS updates
- (9.8) Electronic Attack
- (1.5) Computer Network Operations
- (0.3) Program Office Support

FY2004 Plans

- (2.4) IMPACTS updates
- (2.4) Electronic Attack
- (1.1) Computer Network Operations
- (1.3) Navy Vulnerability Assessment Counter-Measures (NVACM)
- (0.5) Program Office Support

FY2005 Plans

- (1.5) IMPACTS updates
- (1.5) Electronic Attack
- (1.0) Computer Network Operations
- (1.0) Navy Vulnerability Assessment Counter-Measures (NVACM)
- (0.5) Navy IO
- (0.4) Program Office Support

B. Other Program Funding Summary

	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>
OMN Line 4B7N	2.3	2.4	2.6	2.7
OPN 234000/6	2.9	5.0	4.2	4.0

C. Acquisition Strategy: N/A.D. Schedule Profile: N/A

			oject Justification	Date: February 2004
APPROPRIATION/BUDGET ACTIVITY RDT&E,N /7	PROGR 020457	RAM ELEMENT 5N	PROJECT NAME AND NUMBER Information Warfare/Z2263	·
E. Program Change Summary:				
	FY03	FY04	FY05	
Previous President's Budget	14.789	7.691	5.874	
Current BES/President's Budget	14.635	11.678	12.201	
Total Adjustments	154	-3.987	-6.327	
Summary of Adjustments:				
Realign to Project Z2462	0.000	-3.900	-3.900	
SBIR Reduction	- 0.154	-0.000	0.000	
FMB realign to R. Barley	0.000	0.000	-2.275	
Navy ATB (Manpower)	0.000	0.000	-0.131	
Congressional Adj. Sect 8094: Mgmt	0.000	-0.021	0.000	
Congressional Adj. Sect 8126: Efficience		-0.066	0.000	
PBD -604 Inflation Adj.	0.000	0.000	-0.016	
PBD-604 Non Purchase Inflation Adj	0.000	0.000	-0.003	
P07 Technical Adj.	0.000	0.000	-0.002	
Subtotal	-0.154	-3.987	-6.327	

Exhibit R-3 Cost Analysis									Date: F	ebruary 2004	4	
RDT&E,N/7			Program	Element: (0204575N					ation Warfar		
Cost Categories	ontract Performing Activity & Location		FY03	FY03 Award	FY04 Cost	FY04 Award	FY05 Cost	FY05 Award	Cost To Complete	Total Cost	Target Value o	
Primary Hardware Development	Var	Var	Cost 0.996	Cost 8.580	Date Var	1.962	Date Var	1.815	Date Var	Cont.	Cont.	Contrac
Subtotal Product Development			0.996	8.580	Var	1.962	Var	1.815	Var	Cont.	Cont.	
·	Var	Var										<u> </u>
Development Support	Var Var	Var Var	1.079 1.901	1.905 2.000	Var Var Var	1.962 1.979 2.000	Var Var Var	1.815 1.034 1.100	Var Var Var	Cont. Cont.	Cont. Cont.	
Development Support			1.079	1.905	Var	1.979	Var	1.034	Var	Cont.	Cont.	
Development Support Software Development			1.079	1.905	Var	1.979	Var	1.034	Var	Cont.	Cont.	

RDT&E,N/7			D 51		0.45553					oruary 2004	1 DE /700	(2
		1	Program Ele	ement: 02		1	1			TION WARF	ARE/Z22	
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY03 Cost	FY03 Award Date	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	Cost To Complete	Total Cost	Target Value o Contrac
Developmental Test & Evaluation	Var	Var	0.000	0.400	Var	0.650	Var	0.700	Var	Cont.	Cont.	Contrac
Subtotal T&E			0.000	0.400	Var	0.650	Var	0.700	Var	Cont.	Cont.	
Remarks			0.000	0.400	v ai	0.030	V al	0.700	V al	Cont.	Cont.	
AIS Support	Var	Var	0.000	0.150	Var	0.100	Var	0.100	Var	Cont.	Cont.	
Sovernment Engineering Support	Var	Var	0.000	0.130	Var	0.100	Var	0.100	Var	Cont.	Cont.	
Program Management Support	Var	Var	0.250	0.850	Var	0.550	Var	0.600	Var	Cont.	Cont.	
Subtotal Management			0.435	1.750	Var	1.100	Var	1.225	Var	Cont.	Cont.	
Remarks								1				I
			4 404	14.635	Var	7.691	Var	5.874	Var	Cont.	Cont.	
Total Cost			4.404	14.033	v ai	7.071	v ai	3.074	v ai	Cont.	Cont.	

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
•						Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	ICLATURE		-
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	Improvement						
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	58.793	51.601	163.371	207.973	160.118	66.684	28.792
A1780 HARM Improvement	3.763	1.991	1.755	3.688	3.696	3.823	3.839
A2185 Adv. Anti-Radiation Guided Missile (AARGM)	46.421	31.188	61.450	74.435	94.176	25.483	
A2211 Joint Common Missile*	7.659	13.749	82.820	117.343	62.246	37.378	24.953
A3056 Direct Attack Guided Rocket (DAGR)/APKWS		4.673	12.504	12.502			
A3057 Common Defense System			4.842	0.005			
A9272 Low Cost High Temp Material	0.950						
	1	1		1	1	1	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Addds: \$2.8 million in FY 2004 for AARGM accelerated Embedded National Tactical Receiver (ENTR) insertion in SD&D. \$14.7 million in FY 2002 for AARGM risk reduction efforts and producibility enhancements, less Congressional undistributed reductions; \$1.0 million in FY 2003 for Low Cost High Temperature Material for Radome and Antennas, less Congressional undistributed reductions; \$2.8 million in FY 2004 for AARGM accelerated Embedded National Tactical Receiver (ENTR) insertion in SD&D.

- (U) HIGH-SPEED ANTI-RADIATION (HARM) IMPROVEMENT: The International HARM Upgrade Program (IHUP) (Block IIIB/VI) was a tri-national Precision Navigation Unit (PNU) cooperative program consisting of the development of a USN-unique tactical software upgrade and a hardware upgrade to include an Inertial Measurement Unit (IMU) and a Global Positioning System (GPS) receiver. This upgrade was intended to provide a much improved guidance capability for the current AGM-88B missile (in German and Italian inventories) and AGM-88C missile (in U.S. inventory). Tri-national participation in the HARM Precision Navigation Upgrade (PNU) modification program was terminated in 3Q03. HARM Improvement includes efforts to conduct Foreign Military Exploitation (FME) analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates, and integration efforts.
- (U) <u>ADVANCED ANTI-RADIATION GUIDED MISSILE (AARGM)</u>: AARGM is a Phase III Small Business Innovative Research (SBIR) program designed to develop and demonstrate an advanced multi-mode seeker to the AGM-88 HARM. A2983/Quick Bolt (QB) is an Advanced Concept Technology Demonstration (ACTD) of Joint-suppression of Enemy Air Defense (J SEAD) technology enhancements applicable to AARGM. An AARGM System Development and Demonstration (SD&D) will commence in FY03. The AARGM program plans production of 1,750 missiles (60) Low Rate Initial Production (LRIP) and 1,690 Full Rate Production modification kit(s).

*Previously referred to as Modernized Hellfire.

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 42)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURI	E
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-7	0205601N HARM Improvem	nent

- (U) <u>JOINT COMMON MISSILE (JCM)</u>: Army lead joint service program to replace the aging legacy TOW, Maverick, and Hellfire missiles with a single multi-role weapon, IAW approved Navy, Army and Marine Corps mission needs statement for future multi-role precision guided weapons. The Department of the Navy (DoN) has a Memorandum of Understanding (MOU) with the Army for participation in the development of the Common Missile. Common Missile will provide Line of Sight (LOS), Non-Line of Sight (NLOS), and Beyond Line of Sight (BLOS) capabilities including precision strike with Fire & Forget technologies, increased range, and increased lethality for both Fixed Wind and Rotary Wing Aircraft. Common Missile will maximize the Warfighter's' operational flexibility by allowing them to effectively engage a variety of stationary and mobile targets, including advanced armor, bunkers, buildings, command and control vehicles, transporter/erector launchers and patrol craft.
- (U) <u>DIRECT ATTACK GUIDED ROCKET (DAGR)</u> The DAGR is an Army ATD to develop a low cost Semi Active Laser (SAL) precision guidance section for existing 2.75 inch unguided rockets. DAGR offers the Navy precision, maximum stored kills per aircraft sortie, minimum collateral damage potential, and increased effectiveness over legacy unguided rockets. The guidance package can be assembled with existing unguided rocket components (warhead and rocket motor) and can be fired from existing rocket launchers. DAGR will provide and inexpensive, small, lightweight, precision guided weapon that is effective against soft and lightly armored targets and which enhances crew survivability with increased stand-off range. Army, Marine Corps, and recent Navy ASUW Mission Need Statements highlighted the requirement for a weapon system capable of employment from the SH-60 to counter a swarm threat of small attack boats.
- (U) <u>COMMON DEFENSE WEAPONS SYSTEM (CDWS)</u>: The Department of the Navy has a requirement to replace legacy weapons with an advanced crew served weapon for assault support helicopters. Specific applications include a machine gun to replace M2M and the XM-218.50 caliber machine guns that will provide a significant increase in firepower, accuracy, lethality and reliability, and will maximize survivability through suppressive fire capabilities. Funding will support requirements validation, advance technology demonstration, and prototype development.
- (U) <u>LOW COST HIGH TEMP MATERIALS</u>: FY 03 Congressional add for design and development of low cost, high temperature materials for radome and antenna use. Funding will support the design and development of six new radome candidate material systems that are (1) safe for production processing, (2) low cost in manufacturing, (3) structurally strong at high temperatures, and (4) compliant with RF transmission requirements compatible with Air-to-Ground Missile Hardware. Congressional add for design and development of low cost, high temperature materials for radome and antenna use. This alternative radome capability will be developed to support AARGM, High-Speed Anti-Radiation (HSAD), and other follow-on AGM-88 configurations.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	n						DATE:		
							Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY	ER AND NAME								
RDT&E, N / BA-7	0205601N HARM	0205601N HARM Improvement A1780 HARM Improvement							
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Project Cost		3.763	1.991	1.755	3.688	3.696	3.823	3.839	
RDT&E Articles Qty				·					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The High-speed Anti-Radiation Missile (HARM) is a joint service program with the Air Force (NAVY lead). The program has been in full production since FY 1983. Program Element 0205601N was used until FY 1990 to develop and test one hardware and two software upgrades to the HARM (AGM-88B, Block III & AGM-88C, Block IV) as Engineering Change Proposals (ECPs). Another ECP software program (Block IIIA & V) was recently developed (FY96 through FY99) to modify HARM software in order to meet operational requirements. The Block V tactical software upgrade gives HARM improved geographic specificity and improved capability against advanced waveforms. HARM Block IIIA/V software was distributed to the Fleet in FY00.

The International HARM Upgrade Program (IHUP)/Precision Navigation Unit (PNU) was a tri-national (U.S., Italy, and Germany) cooperative program designed to improve the HARM's effectiveness by enhancing the missile's probability of kill and reducing the potential for fratricide while making the missile easier to employ. The Program consisted of significant hardware and software modifications to the missile's control and guidance sections. The USN frequently referred to the IHUP upgrade as Block IIIB/VI. The HARM Block IIIB/VI program started development in FY98 and was scheduled to commence production in FY03. International participation in the HARM Precision Navigation Upgrade (PNU) modification program was terminated in 3Q03. Funding in FY00 through FY03 is dedicated to the HARM Block IIIB/IV program.

HARM Improvement includes efforts to conduct Foreign Military Exploitation (FME) analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates, and integration efforts.

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 3 of 42)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificat	DATE: February 2004			
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AN		
T&E, N / BA-7	0205601N HARM Improvement	A1780 HARM Improvement	ent	
Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	3.763	0.000	0.000	
RDT&E Articles Quantity Completes design, development, testing and ir	Itegration of the IHUP PNU Block IIIB/VI.			
	Integration of the IHUP PNU Block IIIB/VI.			
	Integration of the IHUP PNU Block IIIB/VI.	FY 04	FY 05	
		FY 04 1.991	FY 05 1.755	

R-1 SHOPPING LIST - Item No.

175

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 4 of 42)

CLASSIFICATION:

Technical:

Not Applicable.

					February 2004
ROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NAME	
Γ&E, N / BA-7	0205601N HARM Improvement			A1780 HARM Improvement	
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	3.807	2.013	1.749		
Current BES/President's Budget	3.763	1.991	1.755		
Total Adjustments	-0.044	-0.022	0.006		
Summary of Adjustments					
Congressional program reductions					
Congressional undistributed reduction	ns	-0.022			
Congressional rescissions					
SBIR/STTR Transfer	-0.002				
Economic Assumptions			0.008		
Reprogrammings	-0.042				
Congressional increases			0.000		
Reprioritizations Subtotal	-0.044	-0.022	-0.002 0.006		
Subtotal	-0.044	-0.022	0.006		
Schedule:					
Tri-national participation in the HARM Precision	n Navigation Ungrado (PNU) modifi	cation program	was tormin	atod in 3003. As a result, the schodule	has changed significantly from the
previous President's Budget. The only efforts r				ated in SQUS. As a result, the schedule	e has changed significantly from the
previous President's Budget. The only enorts i	remaining consist of continuing Fore	ign iviilitary Exp	Dioitation.		

R-1 SHOPPING LIST - Item No. 175

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 5 of 42)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
	•								Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	PROJECT NU	MBER AND N	IAME		-				
RDT&E, N /	BA-7	0205601N HARM Improvement			A1780 HARM Improvement						
D. OTHER PROGR	RAM FUNDING SUMMARY:										
Line Item No. & N	lame	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>	
WPN BLI 2032	70, HARM MODS	3.880	0	0	0	0			0	3.880	
Related RDT&E	E: Not applicable.										

E. ACQUISITION STRATEGY: *

The HARM Block IIIB/VI Upgrade program was an ACAT III Program and consisting of three separate phases (EMD, Production, and Technology Evaluation and Assessment). The acquisition strategy for the HARM Block IIIB/VI Program was complete and was based upon a signed international Memorandum of Agreement with Germany, Italy, and U.S. Navy; a tri-national Cooperative Operational Requirements Document (CORD), and a Cooperative Test and Evaluation Master Plan (CTEMP). These three documents drove the overall acquisition approach to the HARM Block VI project. Tri-national participation in the HARM Precision Navigation Upgrade (PNU) modification program was terminated in 3Q03.

Available resources wil be applied to HARM Legacy configuration requirements.

CLASSIFICATION:

				•		•		DATE:				
Exhibit R-3 Cost Analysis (pag	ge 1)									February 200)4	
APPROPRIATION/BUDGET ACTIV	ITY	PROGRAM E	LEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7		0205601N HA	RM Improvement			A1780 HARN		nt				
Cost Categories		Performing	Total		FY 03		FY 04		FY 05			
					Award	FY 04	Award	FY 05	Award		Total	Target Value
		Location			Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	C/CPIF	RSC, Tucson, AZ	18.249	0.824	10/02						19.073	19.073
Aircraft Integration	WX	NAWC WD, China Lake, CA	9.746	1.530	10/02						11.276	
Systems Engineering	WX	NAWC WD, China Lake, CA	2.984	0.625	10/02						3.609	
Cystems Engineering	***	TV/VVO VVB, Offina Earce, O/V	2.504	0.020	10/02						0.000	
						+						
Subtotal Product Development			30.979	2.979		0.00	ס	0.00	ס	0.000	33.958	
					10/00						1011	
Integrated Logistics Support	WX	NAWC WD, Point Mugu, CA	1.209	0.435	10/02						1.644	
Studies & Analyses	MIPR	Boeing		0.030	01/03						0.030	
Subtotal Support			1.209	0.465		0.00	0	0.00	ס	0.000	1.674	
Remarks:												
			R-1 SHOP	PING LIST -	Item No.	175						

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	ge 2)							2, 1, 2,		February 200	04	
APPROPRIATION/BUDGET ACTIV		PROGRAM E	LEMENT			PROJECT N	JMBER AND	NAME				
RDT&E, N / BA-7		0205601N HA	RM Improvem	ent		A1780 HARM	I Improvemen	t				
Cost Categories	Contract Method & Type		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC WD China Lake, CA	9.006							The state of the s	9.162	
Operational Test & Evaluation	WX	NAWC WD China Lake, CA	3.308								3.308	
Operational Test & Evaluation FME	WX	NAWC WD China Lake, CA	0.000		02/03	1.901	10/03	1.731	10/04	Continuing	Continuing	3
										+		+
Award Fees												
Subtotal T&E			12.314	0.291		1.901		1.731		Continuing	Continuing	7
	T							<u>.</u>				
Contractor Engineering Support	RX	Rockwell Collins	2.149	0.000		0.065	12/03	0.015	12/04		2.229)
Program Management Support	wx	NAWCAD, Pax River, MD				0.011	01/04			Continuing	Continuing	a
Travel/Transportation	WX	NAWCAD, Pax River, MD	0.337	7 0.028	10/02	0.014	10/03	0.009	10/04	Continuing	Continuing	3
Subtotal Management			2.486	0.028		0.090)	0.024		Continuing	Continuing	3
Remarks:												
Total Cost			46.988	3.763		1.991		1.755		Continuing	Continuing	al
Remarks: Tri-national participation	n in the HA	RM Precision Navigation Upgr	rade (PNU) m	odification prog	ram was tern	ninated in 3Q03.						

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE		F	ebrua	ry 20	004		
APPROPRIATION/BUDGET RDT&E, N /	BA-				1				PRO0 02056						D NAM	ΛE	ı					JECT N 0 HAR				ME			1			
Fiscal Year		20	02			20	03			20	04			20	05			20	06			20	07			20	80			20	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
Development TRR					ITPW	 G/FTRF																										
Testing CT&E				<u> С</u>	T&E			Combii	ned D1	T/OT																						
Combined DT/OT PRR Foreign Military Exploitation	(EN4E)						PRR	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Λ_	701																						
roreign military Exploitation	(FINIE)	Conti	luing																													

 $^{^{\}ast}$ Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Evhibit D. Ac. Cabadula Datail						DATE		
Exhibit R-4a, Schedule Detail						DATE:		
							ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&BA-7	0205601 HAR	M Improvemen	t		A1780 HARM	Improvement		
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
T (D) (TDD)								
Test Readiness Review (TRR)	4Q							
Combined Test and Evaluation	4Q	40.00						
Developmental Testing (Combined DT-OT) - partial completion Preproduction Readiness Review (PRR) - partial completion	4Q	1Q-3Q						
Preproduction Readiness Review (PRR) - partial completion	4Q	1Q-2Q						
	_							
Foreign Military Exploitation (FME) Analysis and Testing			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
1 ordigit William Exploitation (1 ME) / that you and 1 county			100 100	10.10	10, 10,	10.10.	100 100	10, 10,

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	IENT NUMBER AN	D NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0205601N HARM	Improvement			A2185 Advanced A	Anti-Radiation Guid	ed Missile (AARGN	1)
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		46.421	31.188	61.450	74.435	94.176	25.483	0.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

*Congressional Add: \$2.8 million in FY 2004 for AARGM accelerated Embedded National Tactical Receiver (ENTR) insertion in SD&D.

The Advanced Anti-Radiation Guided Missile (AARGM), AGM-88E, Project transitioned a Phase III Small Business Innovative Research (SBIR) program to develop and demonstrate a multi-mode guidance section on a HARM airframe to System Development and Demonstration (SD&D) in FY03. The AARGM SD&D program is designed to integrate a Multi-mode (passive Anti-Radiation Homing (ARH)/active Millimeter Wave (MMW) Radar/Global Positioning system/Inertial Navigation System (GPS/INS)) on the HARM AGM-88 missile. AARGM weapon system capabilities include: counter shutdown, active Millimeter Wave guidance, expanded threat coverage, enhanced anti-radiation homing receiver, netted targeting real-time feed via Integrated Broadcasting Systems (IBS) prior to missile launch, weapon impact assessment transmitted prior to detonation, GPS/point-to-point weapon, and weapon operation in impact avoidance zone/missile impact zones.

The issue of emitter "shut-down" as a defensive tactic has been a major shortcoming in the joint suppression of enemy air defenses (J-SEAD) element of the offensive counter air mission area for the United States Navy and Air Force. Program objectives are to achieve an effective and affordable lethal DEAD (Destruction of Enemy Air Defenses) capability against mobile, relocatable, or fixed air defense threats even in the presence of emitter shutdown or other Anti-Radiation Missile (ARM) countermeasures. The multi-mode technology being integrated in the AARGM program resolves the problem of "shut-down".

The AARGM Advanced Technology Demonstration (ATD) program was an outgrowth of a Phase I and II competitive SBIR program. Phase I and II SBIR efforts successfully demonstrated the feasibility of a multi-mode seeker to address radar "shut-down" issues. Science and Applied Technology (SAT), Inc. was awarded Phase I and II contracts (FY90-93) and was subsequently selected for a Phase III demonstration in FY94. Phase III ATD work was performed by ATK Missile Systems Company (AMSC) (previously SAT) under NAVAIR contract N00019-94-C-0078. This contractual effort resulted in a cumulative contract value of \$194.9M. The AARGM ATD completed in FY 2002; the AARGM Risk Reduction/Producibility Enhancement Effort completed in FY03. At Milestone B, in June 2003, AARGM successfully transitioned to a System Development and Demonstration (SD&D) Acquisition Category 1C (ACAT 1C) program. AMSC was awarded the AARGM SD&D NAVAIR Contract N00019-03-C-0353, valued at \$222.6M. The AARGM program plans to produce 1,750 missiles (75 Low Rate Initial Production (LRIP) missiles and 1.675 Full Rate AGM-88Es).

The AARGM program is the vehicle for the Quick Bolt Advanced Concept Technology Demonstration (ACTD). Quick Bolt adds the ability to receive threat data from national assets, enlarging the target set and increasing aircrew situational awareness, and to transmit a Weapon Impact Assessment (WIA) message to assist in the critical area of Battle Damage Assessment (BDA). The Quick Bolt ACTD was completed in FY03. Quick Bolt demonstration testing successfully used Impact Avoidance Zone (IAZ) logic to distinguish between the proscribed and original target, demonstrating the ability to greatly reduce friendly fire incidents and collateral damage.

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 11 of 42)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification

Accomplishments/Effort/Subtotal Cost

RDT&E Articles Quantity

				February 2004	
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER A	AND NAME	PROJECT NUMBER AND	NAME	
RDT&E, N / BA-7	0205601N HARM Improvement		A2185 Advanced Anti-Rad	liation Guided Missile (AARGM)	
B. Accomplishments/Planned Program					
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		21.900			
RDT&E Articles Quantity					

Milestone B System Development and Demonstration (SD&D) activities, and post-Milestone B SD&D efforts. Contractor to update the Advanced Technology Demonstration (ATD)/Advanced Concept Technology Demonstration (ACTD) subsystem designs to the SD&D System Performance Specification and prepare for/conduct System Design Review, Preliminary Design Review, Critical Design Review, Contractor build-up and laboratory and field testing of the AGM-88E seeker. Field activities to support System Engineering, aircarft integration (including Software Configuration Set support), test asset, and test and evaluation requirements analysis, and developmental logistics support. Contractor to perform engineering and technical evaluation services to support program management of AARGM.

FY 03

11.114

FY 04

31.188

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	13.407		
RDT&E Articles Quantity			

Quick Bolt Advanced Concept Technology Demonstration (ACTD) contractor and governmental activities demonstrated the utility of integrating off-board sensor cueing into a new HARM seeker and the utility of providing Weapon Impact Assessment data for BDA cueing. Contractor supported Military Utility Assessment activities including hardware in-the-loop testing, field testing, and missile live firings. Contractor transferred residual ACTD assets to SD&D Contract.

Item No. 175

DATE:

FY 05

61.450

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME	l i	PROJECT NUMBER AN	DNAME	rebruary 2004
	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AN	DINAME	
RDT&E, N / BA-7	0205601N HARM Improvement		,	A2185 Advanced Anti-Ra	adiation Guided Mis	ssile (AARGM)
C. PROGRAM CHANGE SUMMARY:						
Funding:		FY 2003	FY 2004	FY 2005		
Previous President's Budget		47.531	28.739	53.553		
Current BES/President's Budget		46.421	31.188	61.450		
Total Adjustments		-1.110	2.449	7.897		
Summary of Adjustments						
Congressional undistributed reduction	S		-0.351			
Congressional rescissions						
SBIR/STTR Transfer		-0.973				
Economic Assumtions				-0.072		
Reprogrammings		-0.137		7.969		
Reprogrammings						
Congressional increases			2.800			
Subtotal	_	-1.110	2.449	7.897		

Scriedule.

To support Milestone C in 2QFY08, the Operational Assessment (OA) has been added to 4QFY07. Operational Testing (OTC) has been shifted to 3QFY08 to allow for Developmental Test (DT) completion before commencement of OTC. Completion of Low Rate Initial Production (LRIP) I and Initial Operational Capibility (IOC) has been accelerated to 4QFY09 per the funding adjustments.

Technical:

CLASSIFICATION:

EXHIBIT R-2a, RDT&	E Project Justification							DATE:			
									Februa	ary 2004	
APPROPRIATION/BUDGI	ET ACTIVITY	PROGRAM EL	EMENT NUMI	BER AND NAM	ΙE	PROJECT NU	JMBER AND N	IAME			
RDT&E, N /	BA-7	0205601N HAI	RM Improveme	ent		A2185 Advanc	ced Anti-Radia	tion Guided Mi	ssile (AARGM)		
D. OTHER PROGR	RAM FUNDING SUMMARY:								_		
Line Item No. & N P-1 Proc. Line Item	<u>Name</u> n No. 232700, HARM MODS	<u>FY 2003</u> 0	<u>FY 2004</u> 0	<u>FY 2005</u> 0	FY 2006 0	<u>FY 2007</u> 0	<u>FY 2008</u> 40.545	FY 2009 42.546	To <u>Complete</u> 889.809	Total <u>Cost</u> 972.900	

E. ACQUISITION STRATEGY:

The AARGM program started as a Phase I Small Business Innovative Research (SBIR), Advanced Technology Program (ATD), evolved into a Phase III SBIR program, and transitioned into a System Development and Demonstration (SD&D) ACAT 1C program in June 2003. The AARGM SD&D will fulfill U.S. Navy operational requirements and incorporates AARGM system requirements. Government responsibilities for both the ATD and SD&D include monitoring, technical assessment and validation of contractor technology development and testing.

The Quick Bolt Advanced Concept Technology Demonstration (ACTD) was completed in FY03 and transitioned into the AARGM SD&D.

CLASSIFICATION:

										DATE:				
Exhibit R-3 Cost Ana												February 200	14	
APPROPRIATION/BUDG		ΓY		PROGRAM E				PROJECT NU						
	BA-7			0205601N HA	RM Improveme					tion Guided Mis	. ,			
Cost Categories		Contract	Performing		Total		FY 03		FY 04		FY 05	0 11		
		Method	Activity &		-	FY 03 Cost	Award Date	FY 04	Award Date		Award Date		Total Cost	Target Value of Contract
Diament Headan Devel		& Type	Location	-11:11- 04	Cost		Date		Date		Date			
Primary Hardware Develo	•	CPFF	SAT, Woodlar		98.562	0.000		0.000		0.000		0.000		+
Primary Hardware Dev		CPFF	SAT, Woodlar		52.305	14.000	11/02	0.000		0.000		0.000	66.305	
Primary Hardware Dev		CPFF	SAT, Woodlar		4.700	12.634	10/02	0.000	10100	0.000		0.000	17.334	
Primary Hardware Dev		CPIF	ATK, Woodlar		0.000	3.346	06/03	25.949	12/03	44.884	12/04	148.436		1
Aircraft Integration		WX	NAWC WD, C		0.122	2.613	10/02	0.488	10/03	2.000	10/04	2.200	7.423	
Systems Engineering		WX	NAWC WD, C		15.611	4.200	10/02	2.831	10/03	8.437	10/04	21.164	52.243	1
Systems Engineering		WX	JHU/APL, MD		0.615	0.000							0.615	
Primary Hardware Dev	Risk Red.	CPFF	ATK, San Die	go, CA	0.000	7.000	04/03						7.000	7.000
Subtotal Product Developm	nent				171.915	43.793		29.268		55.321		171.800	472.097	
Integrated Logistics Support	t	Var	Various			0.050	02/03	0.200	10/03	0.309	10/04	1.022	1.581	
Studies & Analyses		Var	Various			0.027	10/02	0.027	10/03	0.028	10/04	0.090	0.172	
Subtotal Support					0.000	0.077		0.227		0.337		1.112	1.753	
Remarks:														

CLASSIFICATION:

								IDATE.				
Exhibit R-3 Cost Analysis (pa	ae 2)							DATE:		February 200	04	
APPROPRIATION/BUDGET ACTIV		PROGRAM E	ELEMENT			PROJECT NU	JMBER AND	NAME			<u>:</u>	
RDT&E, N / BA-7			ARM Improvem	ent				ation Guided Mis	ssile (AARGM)		
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC WD, CHINA LAKE		1.200	10/02	0.893	10/03	2.000	10/04	11.702	15.795	
Operational Test & Evaluation	WX	NAWC WD, CHINA LAKE								3.248		
Test Assets	WX	Assorted						2.750	10/04	2.250	5.000)
Outhorist TOE			0.000	4.000		0.000		4.750		47.000	24.04	
Subtotal T&E			0.000	1.200	וי	0.893	3	4.750		17.200	24.043	<u>1</u>
Contractor Engineering Support	RX	DCS Corp, Alexandria, VA	3.236	1.31	1 10/02	0.720	11/03	0.942	11/04	3.476	9.685	5
										 	1 100	
Travel	WX	NAWC AD, Patuxent MD	0.375	0.040	10/02	0.080	10/03	0.100	10/04	0.507	1.102	<u></u>
			+									
Subtotal Management			3.611	1.351	1	0.800		1.042		3.983	10.787	7
Remarks:												
Total Cost			175.526	46.42	1	31.188	В	61.450		194.094	508.679	9
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule P																									DATE		F	ebrua	ıry 20	004		
APPROPRIATION/BUDGET A RDT&E, N /	CTIVI BA-7									RAM 601N H				ER ANI t	O NAM	ΙE					PROJ A2185						ed Mis	sile (A	ARGM	1)		
Fiscal Year		200)2			20	03		02000	200		р.о		200	05			200	06		,	20				20		V V 0.11.0		200)9	
riodal roal	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones						MSB	A																		MSC	Δ						
completion of AARGM ATD completion of Quick Bolt ACTD							A	▲	Contro	at Aud																						
Contract Award (SD&D) Development System Design Review Preliminary Design Review Critical Design Review Functional Configuration Audit Production Readiness Review								SD&D	Contra	ct Awd			PDR	\triangle			CDR	\triangle						FCA PRR								
Physical Configuration Audit Testing & Evaluation Mileston Development Testing Development Testing Operational Testing (OTC) Operational Assessment	ones													Ţ.				DT-B1						PCA DT-BII		-	<u></u>		_			
Production Milestones Low-Rate Initial Production LR Low-Rate Initial Production LR																										\triangle	LRIF	1		\triangle	LRIF)
Deliveries Low-Rate Initial Production LR	IP I																											LRIP	¹ 1 Deli	veries		
nitial Operational Capability (IC	OC)																														IOC	<u>_</u> ,

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA		
RDT&BA-7	0205601N HA	RM Improveme	ent		A2185 Advanc	ced Anti-Radiati	on Guided Mis	sile (AARGM)
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone B		3Q			1 1 1 1 1 1 1			
Contract Award (SD&D)		3Q						
System Design Review (SDR)			1Q					
Preliminary Design Review (PDR)				2Q				
Developmental Testing (DT-B1)				3Q-4Q	1Q-4Q	1Q-2Q		
Critical Design Review (CDR)					2Q			
Developmental Testing (DT-B2)						2Q-4Q	1Q	
Operational Assessment (OA)						4Q		
Functional Configuration Audit (FCA)							1Q	
Preproduction Readiness Review (PRR)							1Q	
Physical Configuration Audit (PCA)							1Q	
Physical Configuration Audit (PCA) Milestone C (MS C)							2Q	
Low-Rate Initial Production I - LRIP I							2Q	
Operational Testing (OTC)							3Q-4Q	1Q
Low Rate Initial Production - LRIP II								2Q
Low-Rate Initial Production I - LRIP I Delivery								3Q
Initial Operational Capability								4Q
L				475				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	n						DATE:	
•							Februai	y 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AN	D NAME		PROJECT NUMBE	R AND NAME		_
RDT&E, N / BA-7	0205601N HARM	1 Improvement			A2211 Joint Comr	mon Missile*		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		7.659	13.749	82.820	117.343	62.246	37.378	24.953
RDT&E Articles Qty				34	67	65	23	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

*Previously referred to as JAWS/Modernized HELLFIRE

(U) Joint Common Missile (JCM): Army lead joint service program to replace the aging legacy TOW, Maverick, and Hellfire missiles with a single multi-role weapon, IAW approved Navy, Army and Marine Corps Initial Capabilities Document (ICD) for future multi-role precision guided weapons. The Department of the Navy (DoN) has a Memorandum of Understanding (MOU) with the Army for participation in the development of the Joint Common Missile. Joint Common Missile will provide Line of Sight (LOS), Non-Line of Sight (NLOS), and Beyond Line of Sight (BLOS) capabilities including precision strike with Fire & Forget technologies, increased range, and increased lethality for both Fixed Wind and Rotary Wing Aircraft. Joint Common Missile will maximize the Warfighter's' operational flexibility by allowing them to effectively engage a variety of stationary and mobile targets including: advanced armor, bunkers, buildings, command and control vehicles, transporter/erector launchers and patrol craft.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	ÎAME	
RDT&E, N / BA - 7	0205601N HARM Improvement	A2211 Joint Common Missi	le	
D. A - a - week link was set of Diagrams of Durantum				

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	7.659	6.480	
RDT&E Articles Quantity			

Continued participation with the Army in Joint Common Missile Risk Reduction/Producibility Enhancement efforts for transitioning into SD&D. Development of seeker, propulsion and Warhead technologies for Navy and Marine Corps Fixed and Rotary Wing peculiar requirements (including shipboard operability and suitability); Systems engineering, including development of component technical solutions using SMART (simulation and modeling for acquisition, requirements and training). Risk reduction engineering on multi-mode seekers (Dual/Tri-Mode), advanced warheads, and variable thrust propulsion.

		FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		7.269	82.820
RDT&E Articles Quantity			34

Continue participation with the Army in Joint Common Missile Milestone B System Development and Demonstration (SD&D) activities, and post-Milestone B SD&D efforts. Contractor to update the SD&D subsystem designs to the SD&D System Performance Specification and prepare for/conduct System Design Review, Preliminary Design Review, Critical Design Review, and Design Readiness Reviews. Contractor to conduct risk mitigation efforts and complete the design, development, fabrication, test, and qualification of a single configuration Joint Common Missile.

Field activities to support System Engineering, aircarft integration (including Software Configuration Set support), test asset, and test and evaluation requirements analysis, and developmental logistics support. Platform integration will be conducted on AH-1Z, F/A-18 E/F, and MH-60R.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:
A DDD ODD IA TION ID OFT. A OTH ITY	IDDOODAN ELEMENT NUMBER	AND MANE			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME			
RDT&E, N / BA-7	0205601N HARM Improvement		ļ	A2211 Joint (Common Missile
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	7.950	13.904	59.614		
Current BES/President's Budget	7.659	13.749	82.820		
Total Adjustments	-0.291	-0.155	23.206		
Summary of Adjustments					
Congressional program reductions					
Congressional undistributed reduction	S	-0.155			
Congressional rescissions					
SBIR/STTR Transfer	-0.207				
Economic Assumptions			-0.106		
Reprogrammings	-0.084				
Congressional increases					
Sponsor/FMB/NAVAIR Adjustments			23.312		
Subtotal	-0.291	-0.155	23.206		
Schedule:					
The Joint Common Missile program has a sligl	tly revised plan and has shifted to t	he right 6 mon	the due to IF	OC's direction	n to convert the Operational Requirements
Document (ORD) to the new Capability Develo		ne right o mon	ins due to si	ioo s directio	in to convert the Operational requirements
, , ,	,				
Technical:					
Not Applicable					
	R-1 SHOPP	NO LICT "	hava Nia	175	

R-1 SHOPPING LIST - Item No. 175

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 21 of 42)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justific	ation	DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0205601N HARM Improvement	A2211 Joint Common Missile
	•	

D. OTHER PROGRAM FUNDING SUMMARY:

								10	rotai
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
P-1 Proc, Line Item No. 225400 (\$M) Joint Common Missile					0.8	23.4	46.9		71.100
RDT&E ARMY P.E. 0604329A Proj 013 JCM	28.602	94.7	153.8	148.3	84.7	67.7	57.7	148	783.502
WPN ARMY C70302/APE					6.2	71.6	102.4	TBD	180.200

E. ACQUISITION STRATEGY:

The JCM program was initiated under the provisions of streamlined acquisition principles, and therefore, the first major milestone review will be Milestone B. The J-8, Force Structure, Resources, and Assessment Directorate, HQDA, and the Chairman of the Overarching Integrated Product Team (OIPT) are working to support a schedule of March 2004 for Milestone B; the JCM program entering SDD at the system integration level, where the Army is responsible for risk mitigation and the design, development, fabrication, testing, and qualification of the JCM system. The SD&D and Low Rate Initial Production (LRIP) contractor will be selected through a limited competition with contract award scheduled closely following a successful Milestone B. Though JCM is Army lead, Department of the Navy (DON) pays: Navy unique costs; Navy test assets; and platform integration & testing for AH-1, H-60, and F/A-18.

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pa										February 20	04	
APPROPRIATION/BUDGET ACT	IVITY		IELEMENT				UMBER AND					
RDT&E, N / BA-7 Cost Categories	Contract		HARM Improve	ment	FY 03	A2211 Joint	Common Miss FY 04	sile	FY 05	1		1
Cost Categories	Method	Activity &	Total PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
D: U . D	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	MIPR	AAMCOM, Huntsville, AL		1.870	11/02	0.859	+	9.397		Continuing	,	*
Ancillary Hardware Development	MIPR	AAMCOM Huntsville, AL				1.610		1.581		Continuing	†	
Aircraft Integration	WX	Orlando, TSD		0.300	11/02	0.620	0 11/03	0.553		Continuing	`	
Ship Integration	WX	NAWCAD/WD						8.390	11/04	Continuing	<u>'</u>	,
											0.000	1
Systems Engineering	WX	NAWCAD/WD	1.23	2 2.938	3 10/02	3.70	1 11/03	3.750	11/04	Continuing	<u>'</u>	
											0.000	
											0.000	
				ļ	ļ						0.000	
											0.000	
Award Fees	MIPR	AAMCOM Huntsville, AL				0.050		3.000	11/04	Continuing	`	1
Subtotal Product Development			1.23	2 5.10	8	6.84	0	26.671		Continuing	Continuing	3
Development Support	wx	NAWCAD/WD	1.37	4		0.57	5 11/03	0.319	11/04	Continuing	Continuing	1
Software Development	WX	NAWCAD/WD				2.108	8 11/03	15.129	11/04	Continuing	Continuing	1
Integrated Logistics Support	WX	NAWCAD/WD				0.34		0.390		Continuing		
											0.000	
											0.000	
											0.000	
											0.000)
											0.000	
Subtotal Support			1.37	4 0.000	0	3.020	6	15.838	3	Continuing		
11	.	•			•		1	-	· ·			. 1
Remarks:												

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	je 2)									February 200)4	
APPROPRIATION/BUDGET ACTIV	ITY	PROGRAM EI				PROJECT NU						
RDT&E, N / BA-7		0205601N H		nent		A2211 Joint C						
Cost Categories		Performing	Total		FY 03		FY 04		FY 05			
		Activity &	PY s	FY 03	Award	FY 04	Award		Award	Cost to	Total	Target Value
Developmental Test 0 Fusikation	<u>, , , , , , , , , , , , , , , , , , , </u>	Location	Cost	Cost	Date	Cost	Date		Date	Complete		of Contract
Developmental Test & Evaluation	WX	NAWCAD/WX	0.185	1.000	11/02	2.476	05/04	7.055	11/04	Continuing	Continuing	
											0.000	
Test Assets	MIPR	AAMCOM Huntsville				0.198	02/04	31.490	11/04	Continuing	0.000 Continuing	
Tooling		NAWCWD/Contractor		0.500	11/02	0.100	02/01	01.100	11/01	Continuing	0.500	
10011119	IVIII TO TOL	TW WW OW BY CONTRACTOR		0.000	11/02						0.000	
											0.000	
Subtotal T&E			0.185	1.50)	2.674		38.545		Continuing	Continuing	
Government Engineering Support		NAWCAD/WD	1.912	0.500	0 01/03	0.514	01/04	0.830	11/04	Continuing	0.000 Continuing	
Program Management Support	WX	NAWCAD/WD		0.50	1 11/02	0.620	01/04	0.841	11/04	Continuing	Continuing	
Travel	WX	NAVAIR/AAMCOM, Huntsville, A	0.125	0.05	10/02	0.075	01/04	0.095	10/04	Continuing	Continuing	
											0.000	
SBIR Assessment			0.039	1						Continuing	Continuing	
Subtotal Management			2.076	1.05	1	1.209		1.766		Continuing	Continuing	
Remarks:												
Total Cost			4.867	7.65	9	13.749		82.820		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile	;																								DATE	≣:	F	ebrua	ary 20	004		
APPROPRIATION/BUDGE	T ACTIV													NUMBE vemen	ER ANI t	O NAM	E					PROJ A2211				ND NAI Iissile	ME						
Fiscal Year		2	2002				20	03			20	04			20	05			200	06			20	07			20	800			200)9	
1.000.	1	2	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones									RFP																							AH-	1Z E
Issue RFP Milestone B Preliminary Design Review									_		MS B				PDR △																		
Contract Award SDD (Multi-Mode Seeker)											\triangle		Pł	nase 1	' 	<u></u>					Phase	e 2						7					
Critical Design Review																	\wedge																
Milestone C Advanced Proc																						\wedge					MS			\wedge			
Milestones Component Development/ System Test and Qual													Pł	nase 1						\wedge					Phas	se 2							
AH-1Z INT/OT F/A-18 E/F INT/OT																																<u>_</u>	
Production Milestones																																	
LRIPI FY 08 LRIPII FY 09																												7					
LRIP I Deliveries																																	<u></u>
I Deliveries														LCUC	PPIN		`T 14	om N		175													

^{*} Not required for Budget Activities 1, 2, 3, and 6

Exhibit R-4, Schedule Profile (Exhibit R-4, page 25 of 42)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND NA		
RDT&BA-7	0205601N HA	RM Improveme	nt		A2211 Joint C	Common Missile	;	
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Issue RFP		4Q						
Milestone B (MSB)		•	2Q					
Contract Award			2Q					
Component Development/System Test and Qual Phase 1			2Q-4Q	1Q-4Q				
System Development Phase I (multi-mode seeker)			2Q-4Q	1Q-3Q				
Preliminary Design Review (PDR)				2Q				
System Development Phase II (multi-mode seeker)				2Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q	
Critical Design Review (CDR)				4Q				
Component Development/System Test and Qual Phase 2					3Q-4Q	1Q-4Q	1Q-2Q	
Milestone C (MS C)							2Q	
Low-Rate Initial Production I (LRIP I)							2Q-4Q	1Q-4Q
Low-Rate Initial Production II (LRIP II)								1Q
Operational Testing (OT-IIA) FA/18 E/F								3Q
Operational Testing (OT-IIA) AH-1Z								3Q
EOC AH-1Z								4Q

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	n						DATE:	
·							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AN	ID NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0205601N HARM	1 Improvement			A3056 Advanced F	Precision Kill Wea	pon System (APKW	/S)
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			4.673	12.504	12.502			
RDT&E Articles Qty			6	12	25			

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Advanced Precision Kill Weapon System (APKWS) is an Army led SDD program to develop a low cost Semi Active Laser (SAL) precision guidance section for existing 2.75 inch unguided rockets. DON participation began in FY04. APKWS will provide and inexpensive, small, lightweight, precision guided weapon that is effective against soft and lightly armored targets and which enhances crew survivability with increased stand-off range. APKWS offers precision, maximum stored kills per aircraft sortie, minimum collateral damage potential, and increased effectiveness over legacy unguided rockets. The guidance package can be assembled with existing unguided rocket components. The Navy is developing a digital launcher to maximize the effectiveness of the APKWS.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

			DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	
RDT&E, N / BA - 7	0205601N HARM Improvement	A3056 Advanced Precision R	(ill Weapon System (APKWS)
B. Accomplishments/Planned Program	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	F1 03	4.673	12.504
RDT&E Articles Quantity	- 	4.070	12.004
and technical analysis.			

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	·			DATE:	
				February	2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND	D NAME	
RDT&E, N / BA-7	0205601N HARM Improvement		A3056 Advanced Precision	on Kill Weapon System (APKWS)	
C. PROGRAM CHANGE SUMMARY:					
Funding: Previous President's Budget:	FY 2003	FY 2004 4.725	FY 2005 12.536		
Current BES/President's Budget Total Adjustments	0.000	4.673 -0.052	12.504 -0.032		
Summary of Adjustments Congressional program reductions Congressional undistributed reductions Congressional rescissions		-0.052			
SBIR/STTR Transfer Economic Assumptions Reprogrammings Congressional increases			-0.027		
Reprioritizations Subtotal		-0.052	-0.005 -0.032		
Schedule:					
Not Applicable.					
Technical:					
Not Applicable					
	R-1 SHOPPING LIST - II	om No	175		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E F	Project Justification							DATE:			
									Februa	ry 2004	
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM E	LEMENT NUM	IBER AND NAI	ИE	PROJECT NU	IMBER AND N	IAME		-	
RDT&E, N /	BA-7	0205601N H	ARM Improver	ment		A3056 Advan	ced Precision I	Kill Weapon Sy	rstem (APKWS)		
D. OTHER PROGRAM	// FUNDING SUMMARY:										
		E) / 0000	E) / 222 /	E) / 200E	E) / 0000				То	Total	
Line Item No. & Nam PANMC - (BLI 01	<u>ne</u> 5100) Airborne Rockets, All Types *	FY 2003	FY 2004	FY 2005	<u>FY 2006</u> 3.5	<u>FY 2007</u> 7.0	FY 2008 10.5	FY 2009	<u>Complete</u>	<u>Cost</u>	
	U. S. Army P.E. 0604802A PROJ D705 cision Weapon System	19.88	42.112	9.008	5.597	4.605			TBD		
Related WPN: U.	S. Army P.E. 0203802A PROJ D786			5.013	10.05	8.986	23.726	22.551	TBD		

^{*} Planned procurement strategy for the APKWS 2.75-inch guidance sections within the current Airborne Rockets, All Types PANMC funding profile

E. ACQUISITION STRATEGY:

- Department of Army (DOA) ACAT II program. Entered SDD in 2nd qtr FY03. DON acquisition strategy is to contract unique requiremetns & Test Assets with the DOA. Platform integrtation is on AH-1W.

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (p.										February 20	04	
APPROPRIATION/BUDGET ACT	IVITY	PROG	RAM ELEMENT			PROJECT N						
RDT&E, N / BA-7			01N HARM Improven	nent		A3056 Advan		Kill Weapon Sy	stem (APKW	S)		
Cost Categories	Contract		Total		FY 03		FY 04		FY 05			
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	MP	AMCOM, Huntsville				0.505	02/04	3.800		0.650		
Ancillary Hardware Development	WX	NAWCAD						1.850		0.000		
Aircraft Integration	WX	NAWCWD				0.200	02/04	0.650	11/04	0.550		
											0.000	
											0.000)
Systems Engineering	WX	NSWC Indian Head						0.444	11/04	0.65	1.097	7
											0.000	
Training Development	WX	NSWC Indian Head						0.145	11/04	0.34	0.490	
											0.000	
											0.000)
											0.000	
Subtotal Product Development			0.00	0.00	0	0.705	5	6.889		2.19		
							1				0.000	ol .
											0.000	
Integrated Logistics Support	WX	NSWC, Indian Head						0.300	11/04	0.40		
Configuration Management	WX	NSWC, Indian Head						0.096	11/04	0.13		
Technical Data	WX	NSWC, Indian Head						0.140	11/04	0.10		
Tooming Bata		Trott o, maian rioda						00		0.10	0.000	
											0.000	
											0.000	
Subtotal Support			0.00	0.00	n	0.000	1	0.536		0.63		
Cubiciai Cupport			0.00	0.00	o	0.000	<u> </u>	0.550		0.00	7 1.17	'
Remarks:												
			R-1 SHO	PPING LIST	- Item No	175						

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag										February 200)4	
APPROPRIATION/BUDGET ACTIV	ITY	PROGRAM				PROJECT NU						
RDT&E, N / BA-7		0205601N	HARM Improveme	ent				Kill Weapon Sys	tem (APKWS)		
Cost Categories		Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &	PY s	FY 03	Award		Award		Award	Cost to	Total	Target Value
	7.	Location	Cost	Cost	Date		Date		Date	Complete		of Contract
Developmental Test & Evaluation		NAWC AD/WD				0.923	02/04	1.455	11/04	1.200		
Operational Test & Evaluation	WX	NAWC AD/WD								4.493	4.493	
											0.000	
Test Assets	MP	AMCOM, Huntsville				1.895	02/04	1.450	10/04	1.260	4.605	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		2.818		2.905		6.953	12.676	
								0.000		0.000		
Government Engineering Support	WX	NAWCAD/WD				0.755	10/03	1.650	10/04	2.020		
Program Management Support	WX	NSWC, Indian Head				0.329	10/03	0.400	10/04	0.528	1.257	
Travel	WX	NSWC/NAWCAD/WD				0.066	10/03	0.124	10/04	0.168	0.358	
											0.000	
											0.000	
Subtotal Management			0.000	0.000)	1.150		2.174		2.716	6.040	
Remarks:												
Total Cost			0.000	0.000)	4.673		12.504		12.502	29.679	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE	i:		Augu	st 200	02		
APPROPRIATION/BUDGE														R AND	NAN	1E						JECT N										
RDT&E, N /	BA-7	<i>'</i>							02056	01N H	IARM	Improv	ement				ı				A305	6 Adva	nced F	Precisi	ion Kill	Weap	on Sys	tem (A	APKWS	S)		
Fiscal Year		200	02			20	03			200	04			200	05			20	06			20	07			20	08			20	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones Milestone B Milestone C					MS B											MS	С				IOC	<u>Ι</u> Λ										
IOC																						\times										
SDD						-	Syster	n Deve	lopmen	t and D	emons	tration	(SDD)		$-\!$																	+
SDD Contract Award					,																											
AH-1 INT/OT*									_																							
Total Construction																^																╁
Test & Evaluation Milestones Component Development/ System Test and Qual														7																		
Operational Test															_	<u> </u>																
Production Milestones																																
LRIP FRP FRP (Follow-on)																	Δ					Δ										
Deliveries*									Δ						Δ				Δ													

^{*} Navy only milestones. All remaining are Department of Army (DOA)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU			
RDT&BA-7	0205601N HA	RM Improveme	nt		A3056 Advanc	ed Precision K	ill Weapon Sys	tem (APKWS)
Schedule Profile	FY 2002		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone II (MSB)	1 1 2002	1Q	200 .	2000	2000			2000
SDD Contract (Army)*		2Q						
System Development		2Q-4Q	1Q-4Q	1Q-3Q				
Milestone C (MS C)		20.0		4Q				
Operational Testing (OT-IIA)				4Q				
Start Low-Rate Initial Production I (LRIP I)				130	1Q			
IOC					1.00	2Q		
Full Rate Production						2Q		
Full Rate Production Follow On						20	2Q	
AH-1 INT/OT			1Q-4Q	1Q-4Q	1		200	
Component Development/System Test and Qual		4Q	1Q-4Q 1Q-4Q	1Q-4Q	1			
Component Bevelopment Cystem Test and Quar		70	14 74	14 44				
* US Army SD&D activities begin in FY 2003; Navy pa	articipation begins in	FY 2004						
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
•							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AN	ID NAME		PROJECT NUMBI	ER AND NAME		
RDT&E, N / BA-7	0205601N HARM	1 Improvement			A3057 Common D	efense Weapons S	System	
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost				4.842	2			
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Department of the Navy has a requirement to replace legacy M2M and XM-218 .50 caliber machine guns with an advanced crew served weapon for assault and support helicopters. Specific applications will provide a significant increase in firepower, accuracy, lethality and reliability, and will maximize survivability through suppressive fire capabilities. Funding will support requirements validation, advance technology demonstration, and hardware development.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	tion		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAI	
RDT&E, N / BA - 7	0205601N HARM Improvement	A3057 Common Defense Wea	pons System
B. Accomplishments/Planned Program			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			4.842
RDT&E Articles Quantity			

R-1 SHOPPING LIST - Item No.

175

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 36 of 42)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0205601N HARM Improvement			A3057 Common Defense Weapons System	
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	0.000	0.000	4.838		
Current BES/President's Budget	0.000	0.000	4.842		
Total Adjustments	0.000	0.000	0.004		
Summary of Adjustments Congressional program reductions Congressional undistributed reductior Congressional rescissions SBIR/STTR Transfer Economic Assumptions Reprogrammings Congressional increases	ns		0.004		
Reprioritizations Subtotal	0.000	0.000	0.004		
Schedule:					
Not Applicable.					
Technical:					
Not Applicable					
		INO LICT 14		475	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E F	Tojout dudamouton							DATE:	Februa	ry 2004	
APPROPRIATION/BUDGET /	ACTIVITY	PROGRAM EL	EMENT NUME	BER AND NAM	E	PROJECT NU	IMBER AND N	AME			
RDT&E, N /	BA-7	0205601N HAF	RM Improveme	ent		A3057 Comm	on Defense We	eapons System	า		
Line Item No. & Nam	M FUNDING SUMMARY: ne ltem No. 052800, M3M .50 Cal ATAV	<u>FY 2003</u> 5.862	FY 2004 5.89	<u>FY 2005</u> 0	<u>FY 2006</u>	<u>FY 2007</u> 0	<u>FY 2008</u> 0	<u>FY 2009</u> 0	To <u>Complete</u>	Total <u>Cost</u>	
APN -5, P-1 Proc. Line	e Item No. 058100	0	0	0	13.752	13.744	0	0			

E. ACQUISITION STRATEGY:

This is a recurring Assault Support OAG action item for all platforms. Funding supports the replacement of WWII era .50 caliber machine guns currently in fleet use across all USMC helicopter platforms. Proposed replacement will offer enhanced reliability, safety, increased operational effectiveness, reduced life cycle costs, and commonality across all support platforms. Required funding would support outfit of all fleet helicopters to the new configuration which include greater ammunition capacity and a soft mount system to reduce airframe fatigue.

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pa	ge 1)									February	2004	
APPROPRIATION/BUDGET ACTIV	/ITY	PROGRAM	ELEMENT			PROJECT	NUMBER AN	D NAME				
RDT&E, N / BA-7			HARM Impro	vement		A3057 Co		e Weapons System				
Cost Categories			Total		FY 03		FY 04		FY 05			
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	PID	FN Herstal (Belgium)						2.000	10/04		2.000	1
Training Development	wx	NAVAIR						0.075	10/04		0.075	
Aircraft Integration	WX	NAWCAD/WD						1.283	10/04		1.283	
7 in ordit integration	1							1.200	10/01			
Systems Engineering	WX	NAWCAD/NAWCWD						0.140	10/04		0.140)
Subtotal Product Development								3.498			3.498	1
Development Support	WX	NAWCAD/NAWCWD						0.140	10/04		0.140	
Integrated Logistics Support	WX	NAWCWD						0.074	10/04		0.074	
Configuration Management	WX	NAWCWD						0.025	10/04		0.025	1
Technical Data	WX	NAWCWD						0.025	10/04		0.025	
Studies & Analyses	WX	NAVAIR						0.075	10/04		0.075	;
Subtotal Support								0.339			0.339	
Subtotal Support	<u> </u>		_					0.339		ļ	0.338	'
Remarks:												
			D 4 6'	IODDINO : !	ST Itom No.	175						

CLASSIFICATION:

								DATE:									
Exhibit R-3 Cost Analysis (pag	ge 2)					February 2004											
APPROPRIATION/BUDGET ACTIV	ΊΤΥ		PROGRAM ELEMEN			PROJECT NUMBER AND NAME											
RDT&E, N / BA-7		0205601N HARM Imp	provement		A3057 Co	mmon Defense	Weapons System										
Cost Categories	Contract	Performing	Total	E)/ 00	FY 03	E)/ 0.4	FY 04	EV 05	FY 05	0 1 1 -	T-4-1	T					
	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract					
Developmental Test & Evaluation	WX	NAWCAD/WD	Cost	Cost	Date	Cost	Date	0.400	10/04	Complete	0.400						
	WX				+	+				+							
Operational Test & Evaluation	VVX	NAWCAD/WD						0.194	10/04		0.194	+					
									10101								
Test Assets	TBD	TBD						0.100	10/04		0.100)					
Subtotal T&E								0.694			0.694	1					
Government Engineering Support	TBD	TBD						0.145	10/04		0.145						
Program Management Support	TBD	TBD						0.146	10/04		0.146						
Travel	TBD	TBD						0.020	10/04		0.020)					
Subtotal Management								0.311			0.311						
Remarks:																	
Total Cost								4.842			4.842	2					
Remarks:	•	+	,	,	•						,	•					

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE		F	ebrua	ary 20	04		
APPROPRIATION/BUDGET RDT&E, N /	ACTIV BA-7								PRO0 02056					ER ANI t) NAM	ΙE									ID NAI e Wea		System	(CDW	S)			
Fiscal Year		20	02			2003			2004			2005			2006			2007			2008				2009							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
Contract Award Advanced Technology Development & Hardware																																
Development																																
H-1/H-46/CH-53D/H-60/V-22 Integration													<u></u>				7															
Test & Evaluation Milestones																																
System Qualification testing															۷		\															

 $^{^{\}star}$ Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail	DATE:	DATE: February 2004								
APPROPRIATION/BUDGET ACTIVITY	JMBER AND NAME									
RDT&BA-7	PROGRAM EL 0205601N HA		ent	A3057 Common Defense Weapons System (CDWS)						
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
Contract Award										
Advanced Technology Demonstration H-1/H-46/CH-53D/H-60/V-22 Integration System Qualification Testing				1Q-4Q						
H-1/H-46/CH-53D/H-60/V-22 Integration				1Q-4Q						
System Qualification Testing				4Q						
	-									
	+									
	•									
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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2004										
APPROPRIATION/BUDGET ACTIVITY											
RDT&E, N / BA-7	0205604N Tactical Data Links										
	Prior									Total	
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program	
Total PE Cost	324.123	40.024	43.971	18.977	31.084	24.866	25.370	25.884	CONT	CONT	
1743 Link-16 Improvements	30.556	14.376	11.509	3.647	2.381	0.000	0.000	0.000	0.000	62.469	
2126 ATDLS Integration	293.567	25.648	32.462	15.330	28.703	24.866	25.370	25.884	CONT	CONT	
Quantity of RDT&E Articles	13	9	8	1						31	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) This program element (PE) develops and improves the Navy's tactical data link systems. It includes the Link-16 Improvements and Advanced Tactical Data Link Systems (ATDLS) Integration Programs.
- (U) Link-16 Improvements extends Link-16 technological improvements to existing and new U.S. Navy tactical data link (TDL) systems, including Link-16 and Link-22. Link-16 Joint Range Extension (JRE) transfers Link-16 data via satellite communications and other non-RF paths. High Throughput Link-16 provides improved data transmission rates by altering the modulation characteristics of Link-16. Link-22 will pass TADIL-J data elements beyond the line-of-sight using a Time Division Multiple Access (TDMA) protocol and improved waveform with existing high-frequency (HF) and ultra-high-frequency (UHF) radios. This project allows more effective employment of fleet units by increasing timeliness, accuracy, and content of tactical data transfer and eliminate line-of-sight transmission limitations thereby improving operational flexibility. The Common Data Link Monitoring System (CDLMS) will be upgraded to Next Generation Command and Control Processor (NGC2P) to provide higher CPU speeds, update rate and memory capacity required for advanced multi-TADIL processing functions. NGC2P Increment 1 (now referred to as NGC2P) will update CDLMS with advanced processors required to support critical data link functions including Link-22 and Link-16 Link-20 and Link-20
- (U) The ATDLS Integration program will integrate the Multifunctional Information Distribution System Low Volume Terminal (MIDS-LVT) Link-16 terminal into U.S. Navy platforms. This multinational (U.S., France, Germany, Italy, and Spain) cooperative development program was established to design, develop, and deliver low-volume lightweight tactical information system terminals for U.S. and foreign fighter aircraft, helicopters, ships and ground sites. The terminals are designed as a Pre-Planned Product Improvement (P3I) of the Joint Tactical Information Distribution System (JTIDS) Time Division Multiple Access (TDMA) Class II terminal. The goal of the MIDS-LVT program is to produce a terminal that is smaller, lighter, fully compatible with, and as capable as the JTIDS TDMA Class II terminals, but suitable for use in platforms that cannot accommodate the bulkier, heavier JTIDS TDMA Class II equipment. This project includes the costs to integrate and test MIDS on the Navy's F/A-18 and selected ship platforms. ATDLS Integration of the MIDS-LVT will also provide selected U.S. Navy and U.S. Marine Corps tactical aircraft such as the F/A-18, P-3, EA-6B, AV-8B and SH-60; U.S. Navy ships, and U.S. Marine Corps ground units with crypto-secure, jam resistant, low-probability-of-exploitation communication of tactical data and voice at a high data rate. It will have additional capabilities of common grid navigation and automatic relay inherent in the equipment that will enable long-range communication and provide jam resistance. The system will be interoperable among all services and NATO/Allied users equipped with MIDS-LVT or JTIDS Class II/IIA.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RDT&E, N / BA-7	0205604N Tactical Data	a Links

- (U) ATDLS Integration Program also develops new and improved capabilities for Navy TADIL-J users. The Command and Control Processor is a software development effort that provides an interface between the TADILs (Links 4A, 11, and 16) and major surface ship Command and Control Systems (Advanced Combat Direction System (ACDS) and AEGIS Command and Decision (C&D)). The Common Data Link Management System is a pre-planned product improvement of the Command and Control Processor. The CDLMS will provide translation between TADILs and isolate all tactical data link equipment, message standards and protocols from tactical information processors. This will provide a flexible capability for rapidly exchanging tactical information using a single database for translating various link formats while remaining completely independent of communications equipment and tactical data computing systems. Development of new capabilities in ATDLS includes Low Cost Integration (LCI referred to as Common Link Integration Processing (CLIP) in FY04 and out with funding realigned from Project X1743 Link-16 Improvements), Dynamic Network Management and the Joint Interface Control Officer Support System (JSS). The Common Link Integration Processing (CLIP) concept will introduce open system software required to reduce life cycle support costs and COTS technology refresh objectives and high throughput Link-16. The CLIP development concept addresses fundamental interoperability and affordability of tactical data link capabilities through cooperative development program under both USN and USAF sponsorship. The principal goal of CLIP is to develop a multi-TDL software capability that can be utilized by multiple platforms (aircraft, ships, and ground) for all services. Dynamic Network Management will provide automatic reconfiguration of Link-16 networks that respond instantly to emergent warfighter requirements in the field. Joint Interface Control Officer (JICO) Support System (JSS) will be the standard joint service toolset to monitor and control
- (U) This program element also funds: (1) the development required to accommodate expanded Link-16 operational capabilities for additional warfare areas, (2) development of automated network management aids, and (3) related systems engineering and contractor support efforts.
- (U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
	February 2004										
APPROPRIATION/BUDGET ACTIVITY	IMBER AND N	AME									
RDT&E,N/BA-7	0205604N	Tactical Data	a Links		nents						
	Prior									Total	
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program	
D : 40 4											
Project Cost	30.556	14.376	11.509	3.647	2.381					62.469	
RDT&E Articles Qty		9	6							15	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Link-16 Improvements extends Link-16 technological improvements to existing and new U.S. Navy tactical data link (TDL) systems, including Link-16 and Link-22. Link-16 Joint Range Extension (JRE) transfers Link-16
data via satellite communications and other non-RF paths. High Throughput Link-16 provides improved data transmission rates by altering the modulation characteristics of Link-16. Link-22 will pass TADIL-J data elements
beyond the line-of-sight using a Time Division Multiple Access (TDMA) protocol and improved waveform with existing high-frequency (HF) and ultra-high-frequency (UHF) radios. This project allows more effective
employment of fleet units by increasing timeliness, accuracy, and content of tactical data transfer and eliminate line-of-sight transmission limitations thereby improving operational flexibility. The Common Data Link
Monitoring System (CDLMS) will be upgraded to Next Generation Command and Control Processor (NGC2P) to provide higher CPU speeds, update rate and memory capacity required for advanced multi-TADIL processing
functions. NGC2P Increment 1 (now referred to as NGC2P) will update CDLMS with advanced processors required to support critical data link functions including Link-22 and Link-16 JRE.

CLASSIFICATION:

PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AND	February 2004 AND NAME						
DT&E,N/BA-7	1743 Link-16 Improv	rements								
l) B. Accomplishments/Planned Program										
D) B. Accomplishments/Planned Program CDLMS / LINK-22 PROGRAM ENHANCEMENTS	FY 03	FY 04	FY 05							
,	FY 03 6.994	FY 04 0.980	FY 05							

FY 03 Accomplishments: Completed MTP Prototype development. Multi-TADIL Processor (MTP) Prototype includes Extremely High Frequency (EHF) Moderate Data Rate (MDR) Beyond Line of Sigh (BLOS) Link-16 capability, Link-16 throughput enhancements and Model 5 Dual Net Link-11 capability. Laboratory testing completed for the MTP Prototypes.

FY 04 Plan: Incorporate enhanced capabilities into NGC2P design. Complete design assessment of MTP Prototype and incorporate results into CDR.

CDLMS / LINK-22 Design and Test	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	3.989		
RDT&E Articles Quantity			

FY 03 Accomplishments: Continued CDLMS/Link-22 design. Conducted System Requirements Review (SRR) and Preliminary Design Review (PDR). Incorporated results from the MTP Prototype onto NGC2P system design requirements.

NGC2P CAPABILITY	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	3.393	10.529	3.647
RDT&E Articles Quantity		6	

FY 03 Accomplishments: Commenced development of NGC2P capability. Commenced development of NGC2P software. Commenced development of CDLMS field change and technical manuals and training curricula updates.

FY 04 Plan: Continue development of NGC2P capability. Continue development of EHF MDR BLOS capability, Link-16 throughput enhancements and Model 5 Dual Net Link-11 capability as well as continuing the rehosting of current C2P software from CMS-2 to Modern Higher Order Software language. Conduct development testing on the adjunct processor units to demonstrate JRE, Dual Net Multi-Frequency Link-11, GCCS-M Interface and Link-22 capabilities. Continue development of CDLMS field change and technical manual development. Continue development of training curricula update.

FY 05 Plan: Continue development of NGC2P capability and development of training curricula. Conduct combat systems integration testing, link certification testing, TECHEVAL/OPEVAL and battlegroup integration testing of NGC2P capability.

CLASSIFICATION:

NT NUMBER AND NAME		PROJECT NUMBER A		February 2004
_				
cal Data Links	,	1743 Link-16 Impr		
			ovements	
FY 2003	FY 2004	FY 2005		
14.832	14.412	6.177		
14.376	11.509	3.647		
-0.456	-2.903	-2.530		
-0.139				
-0.317				
	-2.753	-2.495		
ents	-0.020	-0.018		
	-0.031			
	-0.099			
		-0.015		
		-0.007		
		0.017		
		-0.010		
		-0.002		
-0.456	-2.903	-2.530		
1	14.832 14.376 -0.456 -0.139 -0.317	14.832 14.412 14.376 11.509 -0.456 -2.903 -0.139 -0.317 -2.753 -0.020 -0.031 -0.099	14.832 14.412 6.177 14.376 11.509 3.647 -0.456 -2.903 -2.530 -0.139 -0.317 -2.753 -2.495 -0.020 -0.018 -0.031 -0.099 -0.015 -0.007 -0.017 -0.010 -0.002	14.832 14.412 6.177 14.376 11.509 3.647 -0.456 -2.903 -2.530 -0.139 -0.317 -2.753 -2.495 -0.020 -0.018 -0.031 -0.099 -0.015 -0.007 -0.017 -0.010 -0.002

Funding has been realigned within the Program Element from Project 1743 to 2126 in FYs 04 and beyond in order to manage and execute the Common Link Integration Processing (CLIP) Program under a single project.

(U) Schedule:

The CDR for NGC2P Increment 1 (now referred to as NGC2P) has accelerated from 2nd quarter FY05 to 2nd quarter FY04 and NGC2P IOC accelerated from 3rd quarter FY 07 to 1st quarter FY06. NGC2P Increment 2 (now referred to as CLIP) is shown in the PE 0205604N/2126 budget schedule.

(U) Technical:

NGC2P development has been re-baselined to reflect Navy priorities for tactical data link development. As a result, NGC2P development will focus on adding capability within the current software architecture through the addition of an adjunct processor into the CDLMS. As a result of this change in technical approach, NGC2P CDR has been advanced one year. NGC2P will upgrade existing CDLMS units to add JRE, Dual-Net Multi-Frequency Link-11, GCCS-M Interface, and Link 22. IOC for NGC2P has been advanced by 18 months to 1st quarter FY06.

R-1 SHOPPING LIST - Item No. 176

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 5 of 22)

CLASSIFICATION:

(HIBIT R-2a, RDT&E Project Justification							DATE:	Febru	ary 2004	
PROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT NUM	BER AND NAN	ИΕ	PROJECT NU	IMBER AND N	IAME	I CDI U	ary 2004	
DT&E,N/BA-7	0205604N T	Tactical Dat	a Links		1743 Link-1	16 Improve	ments			
(U) D. OTHER PROGRAM FUNDING SUMMARY:								To	Total	
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost	
OPN Line 2614 ATDLS	9.004	16.063	2.386	13.237	11.562	11.795	12.033	Continuing	Continuing	
(U) E. ACQUISITION STRATEGY:										
Next Generation Command and Control Proces	ssor and Multi -TADIL Proces	ssor Prototype	are utilizing exi	isting cost plu	s contracts.					

CLASSIFICATION:

								DATE:								
Exhibit R-3 Cost Analysis (page 1)										February 2	2004					
APPROPRIATION/BUDGET ACTIVITY		PROGRAM E					IUMBER AND									
RDT&E,N/BA-7		0205604N	Tactical Da	ta Links		1743 Link	-16 Improv	ements								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date			FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract				
NILE Subphase 2	CPIF	Logicon, San Diego, CA	3.171								3.171	3.17				
NILE LLC Dev	CPIF	VIASAT, San Diego, CA	0.500								0.500	0.500				
Link-22 Engineering/Integration	WX	SPAWARSYSCEN, San Diego, CA	3.547								3.547	3.54				
Link-22 Integration	CPFF	Logicon, San Diego, CA	0.116								0.116	0.116				
Link-22 Network Design	WX	NCTSI, San Diego, CA	0.690								0.690	0.690				
Command and Control Processor (C2P)	Various	Various	2.377								2.377	2.37				
Multi-TADIL Capability MTC	Various	Various	1.696								1.696	1.696				
Next Generation C2P Engineering/Integration	WX	SPAWARSYSCEN, San Diego, CA	2.000	2.550	11/02	2.550	11/03	1.000	Various	Continuing	Continuing	Continuin				
Next Generation C2P Engineering/Integration	Various	Various		0.686	Various	1.231	Various	0.329	Various	Continuing	Continuing	Continuin				
Next Generation C2P GFE	Various	Various	0.560	0.236	Various	;					0.796	0.796				
Next Generation C2P Design/Dev	CPFF	APC, Austin, TX	6.313	1.700	Various	;					8.013	8.013				
Next Generation C2P Design/Dev TDA	CPFF	APL/JHU, Laurel, MD	7.585	3.453	Various	;					11.038	11.038				
Next Generation C2P Design/Dev	CPFF	Northrop Grumman IT, Reston, VA		2.024	07/03	4.500	Various	0.250	Various	Continuing	Continuing	Continuing				
Subtotal Product Development			28.555	10.649		8.281		1.579								

Remarks:

CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 2) APPROPRIATION/BUDGET ACTIVITY							T				February 2	2004							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM E					NUMBER AND											
RDT&E,N/BA-7	1-	T=	0205604N	Tactical Da	ata Links	T	1743 Link	-16 Improv	ements	T	1	1	1						
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost		FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract						
Development Support																			
Software Development																			
Integrated Logistics Support																			
Configuration Management																			
Technical Data																			
Studies & Analyses																			
GFE																			
Award Fees																			
Subtotal Support																			
		·			-1	1	1	1		-1		·I	1						
Remarks:																			

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 3)									DATE: February 2004								
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7			PROGRAM E 0205604N		ta Links			UMBER AND									
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s	FY 03	FY 03 Award Date	FY 04 Cost	FY 04 Award	FY 05			Total Cost	Target Value of Contract				
NGC2P Test & Evaluation	WX	SPAWARSYSCEN, Sa	n Diego, CA	0.731	2.100	Various	1.908	Various	1.395	Various	Continuing	Continuing	Continuing				
NGC2P Test & Evaluation	WX	NCTSI, San Diego, CA					0.270	Various	0.298	Various	Continuing	Continuing	Continuing				
A 11 1 1 - A																	
Subtotal T&E				0.731	2.100		2.178		1.693								
Remarks:																	
Engineering Support and Travel	Various	Various		1.270	1.627	Various	1.050	Various	0.375	Various	Continuing	Continuing	Continuing				
Subtotal Management				1.270	1.627		1.050		0.375								
Remarks:																	
Total Cost				30.556	14.376		11.509		3.647								
Remarks:																	
				D 1 9HO	DDING LIG	T - Item No		176									

CLASSIFICATION:

EXHIBIT R4, Schedule																					DATE	i:	F	ebrua	ary 20	004		
APPROPRIATION/BUDGE	T ACTIVI	TY									NAME						PROJ											
RDT&E,N/BA-7					0205	604N	Tact	ical D	ata L	.inks			1				1743 Link-16 Improv				/emei	nts			1			
Fiscal Year		20	03			20	04			2	005			20	006			20	07			20	800			20	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones													IOC															
NGC2P													\triangle															
Engineering Milestones		SRR		PDR ^		CDR ^																						
NGC2P						\triangle																						
Test & Evaluation Milestones																												
MLTT																												
	Lab Te	est		Lab Te	est																							
	$ \wedge $			$ \wedge $																								
MTP Prototype																												
										TE	 ECHEVA \	 L/OPEV 	 /AL 															
							DT				Link Ce	rt .																
NGC2P										CSIT		BGIT																
Contract Milestones																												
	L	CC LR	IP																									
LLC																												
								NGC2	P																			
NGC2P																												

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NUMBER AND NAME		
RDT&E,N/BA-7	0205604N	Tactical Data	1743 Link-16 Improvements				
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
MTP Prototype Lab Test Commenced	1Q						
NGC2P SRR	2Q						
LLC LRIP	2Q						
NGC2P PDR	4Q						
MTP Prototype Lab Test Completed	4Q						
NGC2P CDR		2Q					
NGC2P DT		3Q					
NGC2P Production Contract Award		4Q					
NGC2P CSIT			2Q				
NGC2P TECHEVAL/OPEVAL			3Q				
NGC2P Link Certification			3Q				
NGC2P BGIT			4Q				
NGC2P IOC				1Q			

R-1 SHOPPING LIST - Item No. 176

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Exhibit R-4a, Schedule Detail (Exhibit R-4a, page 11 of 22)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NA					AME						
RDT&E,N/BA-7	0205604N T	0205604N Tactical Data Links 2126 ATDLS Integration				n					
	Prior									Total	
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program	
Project Cost	293.567	25.648	32.462	15.330	28.703	24.866	25.370	25.884	CONT	CONT	
RDT&E Articles Qty	13		2	1						16	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) The ATDLS Integration program will integrate the Multifunctional Information Distribution System Low Volume Terminal (MIDS-LVT) Link-16 terminal into U.S. Navy platforms. This multinational (U.S., France, Germany, Italy, and Spain) cooperative development program was established to design, develop, and deliver low-volume lightweight tactical information system terminals for U.S. and foreign fighter aircraft, helicopters, ships and ground sites. The terminals are designed as a Pre-Planned Product Improvement (P3I) of the Joint Tactical Information Distribution System (JTIDS) Time Division Multiple Access (TDMA) Class II terminal. The goal of the MIDS-LVT program is to produce a terminal that is smaller, lighter, fully compatible with, and as capable as the JTIDS TDMA Class II terminals, but suitable for use in platforms that cannot accommodate the bulkier, heavier JTIDS TDMA Class II equipment. This project includes the costs to integrate and test MIDS on the Navy's F/A-18 and selected ship platforms. ATDLS Integration of the MIDS-LVT will also provide selected U.S. Navy and U.S. Marine Corps tactical aircraft such as the F/A-18, P-3, EA-6B, AV-8B and SH-60; U.S. Navy ships, and U.S. Marine Corps ground units with crypto-secure, jam resistant, low-probability-of-exploitation communication of tactical data and voice at a high data rate. It will have additional capabilities of common grid navigation and automatic relay inherent in the equipment that will enable long-range communication and provide jam resistance. The system will be interoperable among all services and NATO/Allied users equipped with MIDS-LVT or JTIDS Class II/IIA.
- (U) ATDLS Integration Program also develops new and improved capabilities for Navy TADIL-J users. The Command and Control Processor is a software development effort that provides an interface between the TADILs (Links 4A, 11, and 16) and major surface ship Command and Control Systems (Advanced Combat Direction System (ACDS) and AEGIS Command and Decision (C&D)). The Common Data Link Management System is a pre-planned product improvement of the Command and Control Processor. The CDLMS will provide translation between TADILs and isolate all tactical data link equipment, message standards and protocols from tactical information processors. This will provide a flexible capability for rapidly exchanging tactical information using a single database for translating various link formats while remaining completely independent of communications equipment and tactical data computing systems. Development of new capabilities in ATDLS includes Low Cost Integration (LCI referred to as Common Link Integration Processing (CLIP) in FY04 and out with funding realigned from Project X1743 Link-16 Improvements), Dynamic Network Management and the Joint Interface Control Officer Support System (JSS). The Common Link Integration Processing (CLIP) concept will introduce open system software required to reduce life cycle support costs and COTS technology refresh objectives and high throughput Link-16. The CLIP development concept addresses fundamental interoperability and affordability of tactical data link capabilities through cooperative development program under both USN and USAF sponsorship. The principal goal of CLIP is to develop a multi-TDL software capability that can be utilized by multiple platforms (aircraft, ships, and ground) for all services. Dynamic Network Management will provide automatic reconfiguration of Link-16 networks that respond instantly to emergent warfighter requirements in the field. Joint Interface Control Officer (JICO) Support System (JSS) will be the standard joint service toolset to monitor and control
- (U) This project also funds: (1) the development required to accommodate expanded Link-16 operational capabilities for additional warfare areas, (2) development of automated network management aids, and (3) related systems engineering and contractor support efforts.
- (U) Additional terminal development costs are funded in program element 0604771D.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME
RDT&E,N/BA-7	0205604N Tactical Data Links	2126 ATDLS Integratio	n
(U) B. Accomplishments/Planned Program			

F/A-18 MIDS	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	14.347	2.937	
RDT&E Articles Quantity			

FY 03 Accomplishments: Completed F/A-18 MIDS OPEVAL. Conducted F/A-18 system interoperability certification testing. Conducted F/A-18 MIDS OPEVAL Verification of Correction of Deficiencies (VCD).

FY 04 Plan: Conduct F/A-18 MIDS VCD of remaining deficiencies identified during OPEVAL.

MIDS on Ship (MOS)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.491		
RDT&E Articles Quantity			

FY 03 Accomplishments: Completed MIDS on Ship developmental testing.

TADIL-J System Engineering	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.341		
RDT&E Articles Quantity			

FY 03 Accomplishments: Continued TADIL-J System Engineering which included investigating future capabilities and enhancements and ensured Naval upgrades are interoperable with Joint U.S. and allied forces such as joint range extension, dynamic network management, time critical strike, and support integration concepts for additional aircraft.

CLASSIFICATION:

PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBI	ER AND NAME	PROJECT NUMBER AND I	February 2004
DT&E,N/BA-7	0205604N Tactical Data		2126 ATDLS Integration	
J) B. Accomplishments/Planned Program				
J) B. Accomplishments/Planned Program C2P Performance Upgrades	FY 03	FY 04	FY 05	1
	FY 03 1.173	FY 04	FY 05	

FY 03 Accomplishments: Completed Performance Upgrades including C2P Model 5 improvements, Common Data Link Management System (CDLMS) development, and Satellite-TADIL-J development.

Common Link Integration Processing (CLIP) (LCI)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.110	6.620	2.495
RDT&E Articles Quantity			

FY 03 Accomplishments: Developed program specifications, requirements and documentation including contract request for proposal, statement of work, CDRLs and systems requirements document. FY 04 Plan: Commence development of CLIP to provide a common interpretation of data link message standards and to minimize interoperability issues while reducing platform integration costs through a common software solution. Conduct CLIP Link-16/JRE Preliminary Design Review.

FY 05 Plan: Continue development of CLIP Link-16/Joint Range Extension capability and commence development of CLIP Variable Message Forwarding (VMF) capability. Perform platform integration testing of CLIP Link-16/Joint Range Extension capability on air platforms. Conduct CLIP Link-16/JRE Critical Design Review. Conduct CLIP VMF Preliminary Design Review.

Dynamic Network Management	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	3.186	15.833	8.635
RDT&E Articles Quantity		1	

FY 03 Accomplishments: Commenced Dynamic Network Management (DNM) development to provide real-time reconfiguration of Link-16 networks and dynamic reallocation of network capacity to meet emergent warfighter requirements in the field as operations evolve. Supported the development of dynamic reconfiguration protocols and algorithms, preliminary DNM design, laboratory and simulation testing and Fleet Battle Experiment. Conduct Preliminary Design Review (PDR).

FY 04 Plan: Continue DNM development to provide automatic reconfiguration of Link-16 networks and dynamic reallocation of network capacity to meet emergent warfighter requirements in the field as operations evolve. Supports the development, test and evaluation of Link-16 terminal and test bed hardware and software modifications to implement DNM capability. Develop improved Link-16 capabilities including enhanced throughput and organic navigation. Conduct Critical Design Review. Conduct development test on an interim JSS unit to test manual DNM technology. FY 05 Plan: Continue DNM development to provide automatic reconfiguration of Link-16 networks and dynamic reallocation of network capacity to meet emergent warfighter requirements in the field as operations evolve. Complete Link-16 terminal and test bed modifications. Perform software formal qualification tests (SFQT), link certification and participate in Fleet exercise to evaluate DNM maturity. Commence designing and development of platform integration of DNM into ship and aircraft. Develop DNM integrated logistics support products including system-operating procedures.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justific	ation		DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NA	AME
RDT&E,N/BA-7	0205604N Tactical Data Links	2126 ATDLS Integration	n

(U) B. Accomplishments/Planned Program

Joint Interface Cont. Off. Supt. Sys. (JSS)	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		7.072	4.200
RDT&E Articles Quantity		1	1

FY 04 Plan: Develop software to monitor and control multi-TADIL network architectures and acquire test article to support development. Provides Navy funding share of the JSS multi-service development effort. Conduct Preliminary Design Review (PDR) and Critical Design Review (CDR).

FY 05 Plan: Continue software development and perform laboratory integration testing on engineering development model.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	·				DATE:	
-						February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBE	R AND NAME	P	ROJECT NUMBER A	ND NAME	
RDT&E,N/BA-7	0205604N Tactical Data	Links	2	2126 ATDLS Integ	ration	
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:		FY 2003	FY 2004	FY 2005		
FY 04 President's Budget		26.782	30.114	12.912		
FY 05 President's Budget		25.648	32.462	15.330		
Total Adjustments		-1.134	2.348	2.418		
Summary of Adjustments						
Issue 65590 Federal Technology Tra	ansfer	-0.011				
Issue 66556 SBIR		-0.374				
Issue 68849 FY 2003 Update		-0.749				
Issue 67111 Realignment of CLIP	funding to X2126		2.753	2.495		
Issue 66961 SPAWAR Service Cos	t Center Adjustments		-0.033	-0.016		
Issue 68041 Management Improven			-0.087			
Issue 68060 FFRDC Reduction (Sec			-0.006			
Issue 68066 Efficiencies/Revised Ed	,		-0.279			
Issue 67767 NWCF Rates - SPAWA				-0.014		
Issue 69025 WCF - R&D - SPAWAF	R - PBD 430			-0.007		
Issue 69045 PBD 426 Rates - SSC				0.016		
Issue 69492 PBD-604 Inflation				-0.041		
Issue 69512 PBD 604 non-purchase				-0.009		
Issue 69650 P07 Technical Adjustm	ents			-0.006		
Total Adjustments		-1.134	2.348	2.418		

Commencing in FY 04, Project X2126 no longer separately identifies TADIL-J systems engineering in the program plans. TADIL-J systems engineering is included in the applicable product line.

Funding was realigned within the Program Element from Project 1743 to 2126 in FYs 04 and beyond in order to manage and execute the Common Link Integration Processing (CLIP) Program under a single project.

(U) Schedule: MIDS MS III corrected to read 4th quarter vice 1st quarter FY 2003. MS III was achieved for Air Force MIDS LVT (1) in September 2003. MS III for Navy MIDS LVT (1) was delayed from September 2003 to April 2004 for the resolution of four critical operational issues. The LCI schedule has been rebaselined to reflect the CLIP program schedule. Two OPEVAL Verification of Correction of Deficiencies (VCD) were scheduled for MIDS F/A-18. MIDS on Ship TECHEVAL and OPEVAL no longer required due to the program being included under the MIDS Program for MS III decision with F/A-18 as lead platform. MIDS on Ship DT-III-B scheduled in 1st quarter FY 2004 to test Block Cycle 1 production software. DNM CDR slipped from 2nd quarter FY 2004 to 3rd quarter FY 2004 due to the incorporation of additional program requirements. DT event scheduled for DNM in 4th quarter of FY 2004 to test manual DNM capability on interim JSS unit.

(U) Technical: The Low Cost Integration Program was combined with a portion of the Next General Command and Control Processing (NGC2P) Program to develop a single common data link integration solution for both ship and air platforms and is referred to as the Common Link Integration Processing (CLIP) Program.

R-1 SHOPPING LIST - Item No. 17

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 16 of 22)

CLASSIFICATION:

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								Febru	ary 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT NUM	IBER AND NAI	ΛE	PROJECT NU	IMBER AND N	AME			
RDT&E,N/BA-7	0205604N	0205604N Tactical Data Links 2126 ATDLS Integration								
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
. ,								То	Total	
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost	
APN LINE LI 052500 F/A-18	37.937	46.580	48.949	41.254	46.327	47.997	48.915	Continuing	Continuing	
RDT&E,DA	10.122	10.633	18.536	18.797	19.064	19.581	20.058	Continuing	Continuing	
OPN LI 2614 ATDLS	9.004	16.063	2.386	13.237	11.562	11.795	12.033	Continuing	Continuing	

SCN - Funding for ATDLS hardware is not separately identified in the SCN budget exhibits. RELATED RDT&E:

PE 0604771D/P771 - Link-16: System development and demonstration for a Joint Tactical Data Link (TDL).

PE 0604771D/P773 - MIDS: MIDS-LVT terminal development.

(U) E. ACQUISITION STRATEGY:

EXHIBIT R-2a, RDT&E Project Justification

F/A-18 MIDS aircraft integration is utilizing cost plus fixed fee contracts on an R&D Basic Ordering Agreement with Boeing. MIDS integration and testing; TADIL-J systems engineering; and performance upgrades development are utilizing existing cost plus contracts. For Common Link Integration Processing (CLIP), a competitive contract will be awarded to develop a single common data link integration solution that can be configured to satisfy a broad-range of platforms. The Air Force was designated as the acquisition executive for JICO Support System (JSS), and will award a competitive contract for software development and integration. The Dynamic Network Management Network Controller Technology will be incorporated into JSS Block 1 and will utilize the competitive contract for JSS. Remaining Dynamic Network Management development efforts will utilize existing development contracts with NGIT, DLS and BAE.

DATE:

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (page 1)											February 2	004	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM E					UMBER AND					
RDT&E,N/BA-7			0205604N					LS Integrat	ion				
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method & Type	Activity & Location		PY s Cost			FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
MIDS F/A-18 Integration	WX	Various		142.970	7.260			Various	COSI	Date	Complete	151.447	
TADIL-J System Engineering	WX	SPAWARSYSCEN, Sa	an Diego, CA	27.009	1.224			vanous				28,233	
TADIL-J System Engineering	Various	Various		3.726	0.928							4.654	
MIDS on Ship	CPIF	BAE Systems, Wayne,	NJ (DLS)	13.944	2.000	12/02						15.944	15.944
MIDS on Ship	Various	Various		44.240	0.091	Various						44.331	44.331
Performance Upgrades	WX	SPAWARSYSCEN, Sa	an Diego, CA	13.143	1.070	Various						14.213	14.213
Performance Upgrades	Various	Various		5.236								5.236	5.236
Air Defense System Integrator	CPFF	APC, Austin, TX		2.059								2.059	2.059
Dual Net Link-11	WX	Various		1.866								1.866	1.866
Korean Air Defense Sys Impr	CPFF	JHU/APL, Laurel, MD		0.900								0.900	0.900
DNMFL Prototypes	Various	Various		2.127								2.127	2.127
Common Link Processing Program (CLIP) Dev	WX	SPAWARSYSCEN, Sa	an Diego, CA				0.568	11/03	0.924	11/04	Continuing	Continuing	Continuing
Common Link Processing Program (CLIP) Dev	Various	Various			1.946	Various	1.137	Various	0.250	Various	Continuing	Continuing	Continuing
Common Link Processing Program (CLIP) SW Dev	CPFF	TBD					4.220	6/04	1.000	11/04	Continuing	Continuing	Continuing
DNM System Engineering	WX	SPAWARSYSCEN, Sa	an Diego, CA		0.500	11/02	3.173	11/03	1.921	11/04	Continuing	Continuing	Continuing
DNM Development	CPFF	Northrop Grumman IT,	Reston, VA		1.840	2/03	0.696	11/03				2.536	2.536
DNM NCT Development	CPFF	ESC Hanscom AFB, M	IA/TBD				5.759	6/04	0.150	11/04			
DNM Development	MIPR	Warner Robbins AFB,	GA		0.600	Various	0.161	03/04	0.100	11/04	Continuing	Continuing	Continuing
DNM Development	CPIF	BAE Systems, Wayne,	NJ (DLS)				0.117	1/04	0.400	11/04	Continuing	Continuing	Continuing
DNM Systems Engineering	Various	Various					1.194	Various	1.600	11/04	Continuing	Continuing	Continuing
JSS Software Dev and Integration	CPFF	ESC Hanscom AFB, M	IA/TBD				5.564	6/04	3.400	11/04	Continuing	Continuing	Continuing
JSS Test Articles	CPFF	ESC Hanscom AFB, N	IA/TBD				0.771	6/04	0.596	11/04		1.367	1.367
JSS Systems Engineering	CPFF	Galaxy Scientific, Arlin	gton, VA				0.214	11/03	0.204	11/04	Continuing	Continuing	Continuing
JSS Systems Engineering	WX	SPAWARSYSCEN, Sa	an Diego, CA				0.193	11.03					
Subtotal Product Development				257.220	17.459		24.984		10.545				

Remarks: The Low Cost Integration (LCI) Program has been renamed to the Common Link Integration Processing (CLIP) Program.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page	2)								DATE:		February :	2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7	Y		PROGRAM 6 0205604N	ELEMENT Tactical Da	ata Links			NUMBER A			1 cordary	2004	-
Cost Categories	Contract Method & Type	Performing Activity & Location	10-000	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development Support													
Software Development													
Integrated Logistics Support													
Configuration Management													
Technical Data													
Studies & Analyses													
GFE													
Award Fees													
													1
													1
													1
Subtotal Support				0.000	0.000)	0.00	00	0.00	0	0.00	0.000	o
5.11.1	1							1					

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 3)								DATE:		February 2	004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM E	LEMENT			PROJECT N	LIMBER AND	NAME		rebluary 2	004	
RDT&E,N/BA-7		0205604N 7		ta Links		2126 ATDI						
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
· ·	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to		Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Test and Evaluation	Various	Various	4.025							<u> </u>	4.025	4.025
MIDS F/A-18 T&E	WX	SPAWARSYSCEN, San Diego, CA	9.088	3.190	Various	0.496	Various				12.774	12.774
MIDS F/A-18 T&E	Various	Various	7.863	2.477	Various	1.197	Various				11.537	11.537
MIDS on ShipT&E	PD	OPTEVFOR, Norfolk, VA	0.092								0.092	0.092
MIDS on Ship T&E	WX	SPAWARSYSCEN, San Diego, CA	0.940	0.400	11/02					<u> </u>	1.340	1.340
MIDS Test Assets	SS/CPAF/IF	MIDSCO, Fairfield, NJ	6.594							<u> </u>	6.594	6.594
Common Link Integration Processing (CLIP) T&E	wx	SPAWARSYSCEN, San Diego, CA						0.321	11/04	Continuing	Continuing	Continuing
Dynamic Network Management T&E	wx	SPAWARSYSCEN, San Diego, CA				3.685	12/03	1.534	Various	Continuing	Continuing	Continuing
Dynamic Network Management T&E	wx	OPTEVFOR, Norfolk, VA				0.214	06/04	1.500	Various	Continuing	Continuing	Continuing
Dynamic Network Management T&E	wx	Various				0.428	Various					
Subtotal T&E			28.602	6.067		5.592		3.355				
Engineering Support and Travel	Various	Various	7.745	2.122	Various	1.886	Various	1.430	Various	Continuing	Continuing	Continuing
			<u> </u>	<u> </u>								
			<u> </u>									
										 	ļ	
Subtotal Management			7.745	2.122		1.886		1.430				
Odbiotal Management			7.740	2.122		1.000		1.400		L	1	
Remarks:												
Total Cost			293.567	25.648		32.462		15.330				
Remarks: The Low Cost Integration Processing	(LCI) Program	has been renamed to the Common Li	nk Integration	Processing (CLIP) Prograi	m.						

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EXHIBIT R4, Schedule I																					DATE		F	ebrua	ary 20	04		
APPROPRIATION/BUDGET RDT&E,N/BA-7	ACTIVIT	Y					ELEME Tact				NAME		ı				PROJ 2126					ΙE			1			
Fiscal Year		20	03			20	04			20	05			20	06			200	07			20	800			200	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones			IOC	MS III	US AF		MS US	Navy																				
MIDS																				Link	-16/JRE	EIOC	VI	MF/Data	a Forwa	rding IC	DC DC	
CLIP (LCI)																	IOC											
DNM Engineering Milestones							CDR										Δ											
DNM																												
								Link-16 PDR	CDR		VM	F/Data PDR	Forward CDR	ding		Link-4/ PDR												
CLIP (LCI)								PDR	CDR	:																		
JSS Test & Evaluation Milestones	OPEVA		oerabilit	Ī		VCD																						
MIDS F/A-18					DT	·III-B																						
MIDS on Ship					Z	<u></u>				Platfor	m Integ	Test																
CLI P (LCI) LINK-16/JRE											Δ		СТ			DT 			ОТ									
CLIP (LCI) VMF/DATA FORWARDING														Platfor	n Integ	Test	СТ			DT			ОТ					
CLIP (LCI) LINK-4/11/22																	PI	atform	Integ	Test	СТ			DT			ОТ	
OLI (LOI) LINK 4/1/22								DT		SFQT	Link C		xercise		TECH/C	PEVAI												
DNM									7		-	ab Tes	st Ir	nteg Te	st													
JSS Contract Milestones	+					Li	nk-16/JI	RE		VMF/D	ata For	warding]	Li	nk-4/11/	22												
CLIP (LCI)							JSS				Δ				\triangle													
JSS							\triangle																					

R-1 SHOPPING LIST - Item No. 176

The Low Cost Integration (LCI) Program has been renamed as the Common Link Integration Processing (CLIP) Program.

The CLIP Program is a multi-Service effort and is funded by various programs. The development of the CLIP software and integration is funded by LCI (PE 0205604N/2126), NGC2P (PE 0205604N/1743), Naval aircraft platform programs, the Air Force Tactical Data Link Common Software Program and the Air Force Objective Gateway Program. The CLIP Program schedule is shown above.

The Joint Interface Control Officer (JICO) Support System (JSS) is a multi-service effort and is currently funded by the Navy and the Air Force.

CLASSIFICATION:

APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-7 Schedule Profile MIDS F/A-18 Interoperability Cert MIDS F/A-18 OPEVAL MIDS IOC MIDS DAB MS III USAF MIDS DAB MS III US Navy DNM CDR CLIP (LCI) Link-16/JRE Contract Award CLIP (LCI) Link-16/JRE Platform Integration Test DNM SFQT CLIP (LCI) VMF/Data Forwarding CDR CLIP (LCI) VMF/Data Forwarding CDR CLIP (LCI) VMF/Data Forwarding Platform Integration Test DNM Fleet Exercise JSS laboratory Test CLIP (LCI) Link-16/JRE Contract Test CLIP (LCI) Link-16/JRE Contract Test CLIP (LCI) VMF/Data Forwarding CDR CLIP (LCI) VMF/Data Forwarding CDR CLIP (LCI) VMF/Data Forwarding CDR CLIP (LCI) VMF/Data Forwarding CDR CLIP (LCI) VMF/Data Forwarding Platform Integration Test DNM SINGER CONTRACT CONTRAC		1Q 1Q 2Q 3Q 3Q 3Q	FY 2006	PROJECT NU 2126 ATDLS FY 2007		
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CLIP (LCI) Link-4/11/22 CDR			4Q			
				1Q		
				1Q		
CLIP (LCI) VMF/Data Forwarding CT				1Q		
CLIP (LCI) Link-16/JRE OT				3Q		
CLIP (LCI) Link-4/11/22 Platform Integration Test				3Q		
CLIP (LCI) VMF/Data Forwarding DT				4Q		
CLIP (LCI) Link-16/JRE IOC					1Q	
CLIP (LCI) Link-4/11/22 CT					1Q	
CLIP (LCI) VMF/Data Forwarding OT				1	3Q	
CLIP (LCI) Link-4/11/22 DT				1		
CLIP (LCI) VMF/Data Forwarding IOC CLIP (LCI) Link-4/11/22 OT					4Q	1Q

R-1 SHOPPING LIST - Item No. 176

The Low Cost Integration (LCI) Program has been renamed to the Common Link Integration Processing (CLIP) Program.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
						FEBRUA	RY 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	CLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA-07			0205620N Surface	e ASW Combat Sy	stem Integration	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	36.065	23.118	10.612	4.778	10.234	10.505	10.721
0896 / ASW Combat Systems Integration	0.000	0.000	0.000	1.259	5.321	5.427	5.537
1916 / Surface ASW System Improvements	36.065	23.118	10.612	3.519	4.913	5.078	5.184

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The objective of this Program Element (PE) is to significantly improve existing Surface Ship Sonar System Capabilities as well as quickly and affordably develop and integrate emergent transformational technologies.

Project 0896, ASW Combat Systems Integration, will serve as the ASW "way ahead" in the Navy and will provide a clear transition path for emergent transformational ASW technologies to be quickly and affordably developed and incorporated, enabling the aggressive pursuit of improvements to system portability, extension of interoperability with multiple platforms, and opportunity to export these capabilities Navywide. Time phased insertion of ASW COTS improvements will address the entire combat system, including acoustics, fire control, contact management, performance prediction, and on-board training.

Project 1916, Surface ASW System Improvements, will improve AN/SQQ-89(V) Measures of Performance (MOP) by enhancing detection, tracking, classification, active and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth. This Project will take advantage of the AN/SQQ-89(V) Open System Architecture and Acoustic Rapid COTS Insertion (ARCI) intiatives to develop and integrate a Multi-Function Towed Array (MFTA) with active sonar bistatics (Echo Tracker Classifier - ETC), an ARCI passive ASW processor, and torpedo defense capabilities (Forward and Aft sector coverage with Wake Homer protection). This COTS-based Surface USW combat system, the AN/SQQ-89A(V)15, is currently planned as a backfit program for both CG47 (as part of the Cruiser Modernization program) and DDG51 class ships (Flight IIA). Additionally, via a Peer Review Process (PRP) and Build-Test-Build program, this Project will continue to capitalize on the Open System Architecture of the AN/SQQ-89A(V)15 with the incorporation of emergent, transformational ASW technologies.

Defense Emergency Response Funds (DERF) Funds:

Not Applicable

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							FEBRUA	RY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-07	0205620N Surface	e ASW Combat Sys	tem Integration		1916 Surface ASW	System Improvem	ents	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		36.065	23.118	10.612	3.519	4.913	5.078	5.184
RDT&E Articles Qty		1						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Surface ASW System Improvements Project will support essential performance enhancements to AN/SQQ-89(V) and Surface Ship Sonar Systems. This Project, will improve AN/SQQ-89(V) Measures of Performance (MOP) by enhancing detection, tracking, classification, active and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth. This Project will take advantage of the AN/SQQ-89(V) Open System Architecture and Acoustic Rapid COTS Insertion (ARCI) initiatives to develop and integrate a Multi-Function Towed Array (MFTA) with active sonar bistatics (Echo Tracker Classifier - ETC), an ARCI passive ASW processor, and torpedo defense capabilities (Forward and Aft sector coverage with Wake Homer protection). This COTS-based Surface USW combat system, the AN/SQQ-89A(V)15, is currently planned as a backfit program for both CG47 (as part of the Cruiser Modernization program) and DDG51 class ships (Flight IIA). This Project will fund the procurement of the AN/SQQ-89A(V)15 Pre-Production Prototype in FY 2003, with installation planned in FY 2004, and Developmental and Initial Operational Test & Evaluation events scheduled in FY 2004 and FY 2005 respectively. Additionally, via a Peer Review Process (PRP) and Build-Test-Build program, this Project will continue to capitalize on the Open System Architecture of the AN/SQQ-89A(V)15 with the incorporation of emergent, transformational ASW technologies such as data fusion, marine mammal detect and mitigation, Distant Thunder, new RAPTOR radar processor, and upgraded technologies such as algorithm improvements, increased passive narrow band (PNB) frequency, improved extended echo ranging (EER), and beamformer improvements. This Project will also develop the AN/SQQ-89(V) design and interface with the Light Airborne Multi-Purpose (LAMPS) Mk III Blk II System, integrating the LAMPS Mk III Blk II Common Airborne Undersea Sensor Software (CAUSS) and Ku Band on-board AN/SQQ-89(V) systems.

This PE reflects a Congressional Add in in FY 2003 to continue 'AN/SQQ-89(V) Surface Undersea Warfare Combat System sensor and signal processing improvements begun under SBIR N97-090'. Funds were used to improve war fighting capabilities on board Flight I and II DDG51 class ships by modernizing the AN/SQQ-89(V) Surface Undersea Warfare Combat System through COTS technical refresh initiatives not included in the Program of Record. Funding will be used to develop and build a system for land based testing as well as a system for roll-on/roll-off at-sea demonstration and testing and evaluation.

This PE reflects ASN(RDA) BTRs 03-40, 03-41 and 03-50 for \$1.725M in FY 2003 to support the CNO chartered "Task Force ASW" team in recommending transformational technologies for ASW.

This PE reflects a Congressional Add in FY 2004 under Project 1916 for 'Surface Ship ASW R&D Improvements'. Funds will be used to complete the development of promising technologies for at-sea tests in representative warfighting environments. Once satisfactorily tested, technologies will be transitioned to variants of the AN/SQQ-89(V) USW Combat System.

This PE reflects a Congressional Add in FY 2004 under Project 1916 for 'Common Surface and Air Undersea Warfare - Implementation of an Air and Surface Ship Peer Review Process integration approach for replacement of legacy equipment'. Once the Peer Review team determines which legacy equipment to replace/upgrade, funds will be used to develop the Common Surface and Air USW integration system baseline that will be integrated and installed on a DDG51 class ship for testing and evaluation.

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 2 of 12)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			FEBRUARY 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME	
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	1916 Surface ASW System	Improvements	

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Enhance SQQ-89A(V)15 Open System Architecture	4.511	5.155	7.844
RDT&E Articles Quantity			

Development of a common superset software baseline for AN/SQQ-89A(V)15. and AN/SQQ-89(V)15 w/ EC 200. Continue enhancement of the AN/SQQ-89A(V)15 Open System Architecture via the incorporation of transformation technologies through the PRP Build-Test-Build program. Items include Explosive Source integration with AN/SQQ-89(V) processes, rapid integration of Common Undersea Picture initiatives, simplification of displays and active processing, and development of improved torpedo detection algorithms to be incorporated into the Torpedo Recognition and Alertment Functional Segment (TRAFS) on AN/SQQ-89(V) platforms.

	FY 03	FY 04	FY 05
AN/SQQ-89A(V)15 Delivery and Installation	17.123	1.777	
RDT&E Articles Quantity	1		

FY03: Contracted for delivery of AN/SQQ-89A(V)15 Pre-Production Prototype, provided associated integration and production support, and coordinated installation efforts.

FY04: Contract for installation of AN/SQQ-89A(V)15 Pre-Production Prototype, provide associated Installation Checkout (INCO) support.

	FY 03	FY 04	FY 05
AN/SQQ-89A(V)15 Pre-Production Prototype DT/OT		3.312	2.200
RDT&E Articles Quantity			

FY04: Coordinate and conduct Developmental Test DT-IIIAQ of the AN/SQQ-89A(V)15 Pre-Production Prototype and coordinate plan for FY 2005 Initial Operational Test & Evaluation OT-IIIIK

FY05: Coordinate and conduct Initial Operational Test & Evaluation OT-IIIK of the AN/SQQ-89A(V)15 Pre-Production Prototype system.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME	
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	1916 Surface ASW System	Improvements	
TOTAL, N / DA-0/	0203020N Surface ASW Combat System integration	1910 Surface ASW System	improvements	

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
LAMPS Mk III Blk II CAUSS & Ku Band Integration	0.540	1.000	
RDT&E Articles Quantity			

Continue the integration of the LAMPS Mk III Blk II Common Airborne Undersea Sensor Software (CAUSS) and Ku Band on-board AN/SQQ-89(V) platforms, including the AN/SQQ-89(V)15.

	FY 03	FY 04	FY 05
AN/SQQ-89(V) Test & Evaluation Program	0.820	0.686	0.568
RDT&E Articles Quantity			

Provide AN/SQQ-89(V) test and evaluation planning support, update Test & Evaluation Master Plan (TEMP) to reflect AN/SQQ-89A(V)15 test program, coordinate and conduct roll-on roll-off tests of Torpedo Alertment Upgrade (TAU) version 5.0 and AN/SQQ-89(V) PRP systems, provide performance data and environmental analysis, Independent Verification & Validation (IV&V), and modeling and simulation using MOP and measures of effectiveness (MOE) methods.

	FY 03	FY 04	FY 05
MFTA Sea Test	0.335		
RDT&E Articles Quantity			

Coordinated and conducted test of MFTA performance at sea. Provided report and analysis of findings.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	1916 Surface ASW System	Improvements
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	1916 Surface ASW System	Improvements

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Task Force ASW	1.725		
RDT&E Articles Quantity			

The CNO established "Task Force ASW" to review and study options available for revamping the ASW mission by looking at the issue in a holistic approach. Funding supported the Task Force ASW team in recommending transformational technologies for ASW; taking advantage of emerging technologies, new processes, and various methods of monitoring submarine activity, including intelligence collection platforms.

		FY 03	FY 04	FY 05
AN/SQQ-89(V) Sensor/Signal Processing Improvements		11.011		
RDT&E Articles Quantity				

Congressionally added funds in FY03 continued AN/SQQ-89(V) Surface Undersea Warfare Combat System sensor and signal processing improvements begun under SBIR N97-090. These funds were used to improve war fighting capabilities on board Flight I and II DDG51 class ships by modernizing the AN/SQQ-89(V) Surface Undersea Warfare Combat System through COTS technical refresh initiatives not included in the Program of Record. Funding was used to develop and build a system for land based testing as well as a system for roll-on/roll-off at-sea demonstration and testing and evaluation.

	FY 03	FY 04	FY 05
Surface Ship ASW R&D Improvements		10.200	
RDT&E Articles Quantity			

FY 2004 reflects Congressional Add for 'Surface Ship ASW R&D Improvements' to complete the development of promising technologies for at-sea tests in representative warfighting environments. Once satisfactorily tested, technologies will be transitioned to variants of the AN/SQQ-89(V) USW Combat System.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	1916 Surface ASW System	Improvements	

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Common Surface and Air Undersea Warfare		0.988	
RDT&E Articles Quantity			

FY 2004 reflects Congressional Add for 'Common Surface and Air Undersea Warfare' to develop the Common Surface and Air USW integration system baseline that will be integrated and installed on a DDG51 class ship for testing and evaluation.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	on				DATE:	
						FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	NUMBER AND NAME		PROJECT NUMBER /	AND NAME	
RDT&E, N / BA-07	0205620N Surface AS	SW Combat System Integra	ition	1916 Surface ASW Sy	stem Improvements	
C. PROGRAM CHANGE SUMMARY:						
Funding:		FY 2003	FY 2004	FY 2005		
Previous President's Budget: (FY04 Pre		35.106	12.179	11.187		
Current BES/President's Budget: (FY05	5 President's Controls)	36.065	23.118	10.612		
Total Adjustments		0.959	10.939	-0.575		
Summary of Adjustments						
Congressional program red	ductions					
Congressional undistribute						
Congressional rescissions			-0.261			
SBIR/STTR Transfer		-0.760				
Economic Assumptions				-0.049		
Reprogrammings *		1.725		-0.500		
Other Navy/OSD Adjustme	ents	-0.006		-0.026		
Congressional increases			11.200			
Subtotal		0.959	10.939	-0.575		
Schedule:						
None						
Technical:						
None						
110110						
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:	
			FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-07	0205620N Surface ASW Combat System Integration	1916 Surface ASW System Improvements	
	•		

D. OTHER PROGRAM FUNDING SUMMARY:

								10	iotai
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
OPN BLI 2136/ AN/SQQ-89 Surface ASW Combat System	13.7	15.2	0.0	0.0	0.0	0.0	32.9	Continuing	Continuing

OPN BLI 9600/ Cruiser Modernization SCN BLI 2122/ DDG-51

E. ACQUISITION STRATEGY:

- Complete AN/SQQ-89A(V)15 Pre-Production Prototype 1Q FY 2004, perform installation in 3Q FY 2004, conduct developmental test 3Q FY 2004 and initial operational test in FY 2005. Via PRP and Build-Test-Build process, incorporate evolutionary and transformational technologies into AN/SQQ-89(V) systems at scheduled intervals.

F. MAJOR PERFORMERS:

- Advanced Acoustic Concepts (AAC), NY SBIR Phase III contract for common acoustic procesor, prime contractor for FY03 Congressional Add to continue AN/SQQ-89(V) sensor and signal processing improvements begun under SBIR N97-090
- Applied Hydro-Acoustics Research (AHA), MD SBIR Phase III contract for common acoustic processor and beamformer processing for MFTA
- General Dynamics-AIS (formerly DSR), VA SBIR Phase III contract for common acoustic processor
- Johns Hopkins University Applied Physics Laboratory (JHU/APL), MD Design, development and integration of MFTA, Torpedo Detection Classification and Localization (TDCL) improvements, and emerging active sonar technologies into the AN/SQQ-89(V)
- Lockheed Martin, NY Prime AN/SQQ-89(V) Production and Design Agent. This contract was competitively awarded in May 2002
- Naval Sea Systems Command, Newport, RI AN/SQQ-89(V) Technical Design Agent support
- Naval Sea Systems Command, Dahlgren, VA AN/SQQ-89(V) Technical Design Agent support

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

								1				
								DATE:				
Exhibit R-3 Cost Analysis (pag	ge 1)									FEBRUARY 20	004	
APPROPRIATION/BUDGET ACTIV	'ITY	PROGRAM E	LEMENT			PROJECT NU	JMBER AND N	NAME				
RDT&E, N / BA-07		0205620N St	urface ASW Co	mbat System I	ntegration	1916 Surface	ASW System	Improvements				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary H/W & S/W Development	C/CPFF	AAC, NY	2.222	7.910	12/02	0.404	01/04			0.000	10.536	
Primary H/W & S/W Development	C/CPFF	AHA, MD	3.666	2.008	11/02	0.108	02/04			0.000	5.782	
Primary H/W & S/W Development	C/CPFF	GD-AIS, VA	3.644	2.494	11/02	8.466	02/04			0.000	14.604	
Primary H/W & S/W Development	C/CPFF	JHU/APL, MD	6.669	2.269	10/02	0.079	01/04			0.000	9.017	
Primary H/W & S/W Development	C/CPAF	LOCKHEED MARTIN, NY	36.617	11.911	11/02	4.613	11/03	5.500	11/04	Continuing	Continuing	
Primary H/W & S/W Development	WR/WX	NAVSEA/DAHLGREN, VA	7.776	0.753	10/02	0.858	11/03	0.650	10/04	Continuing	Continuing	
Primary H/W & S/W Development	WR/WX	NAVSEA/NEWPORT, RI	26.829	1.872	10/02	0.547	11/03	0.927	10/04	Continuing	Continuing	
Primary H/W & S/W Development	Var.	Var.	28.221	5.488	10/02	3.505	10/03	0.457	11/04	Continuing	Continuing	
Subtotal Product Development			115.644	34.705		18.580		7.534		Continuing	Continuing	
Remarks:												

Remarks

Budgeted for award fees (\$M): 0.292 in FY03, 0.294 in FY04, 0.230 in FY05 (Lockheed Martin, NY). Lockheed Martin's performance has been excellent, earning close to 100% of possible award fee for the most recent award fee periods.

Engineering & Technincal Svcs (ETS)	Var.	Var.	0.900				0.000	0.900	
Studies, Analyses & Evaluation (SAE)	Var.	Var.	1.500				0.000	1.500	
Subtotal Support			2.400	0.000	0.000	0.000	0.000	2.400	

Remarks:

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	je 2)										FEBRUARY 20	004	
APPROPRIATION/BUDGET ACTIV	ITY		PROGRAM E				PROJECT N						
RDT&E, N / BA-07			0205620N Su		mbat System		1916 Surface		Improvements		_		
Cost Categories	Contract			Total	E) / 00	FY 03	5,404	FY 04	E) (0.5	FY 05			
	Method & Type	Activity & Location		PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental & Operational TOE		1				Date					<u> </u>		
Developmental & Operational T&E	Var.	Var.		4.164		10/00	3.312		2.200		Continuing	- v	
Miscellaneous T&E	Var.	Var.		3.422	0.820	10/02	0.686	11/03	0.568	11/04	Continuing	Continuing	
0.14.4.1705				7.500	0.00		0.000		0.700		0 - 1 - 1 - 1	Cantinosia	
Subtotal T&E	1	1		7.586	0.820	<u> </u>	3.998	31	2.768	•	Continuing	Continuing	!
Remarks:													
Program Management Support	Var.	Var.		6.436	0.390	11/02	0.390	12/03	0.160	11/04	Continuing	Continuing	
Travel	Var.	Var.		1.154	0.150	11/02	0.150	11/03	0.150	11/04	Continuing	Continuing	
				7.590	0.540)	0.540)	0.310		Continuing	Continuing	
Remarks:													
Total Cost				133.220	36.06	5	23.118	3	10.612	2	Continuing	Continuing	
Remarks:					PPING LIST	- Item No	177						

Exhibit R-3, Project Cost Analysis (Exhibit R-3, page 10 of 12)

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile	!																							DATE	:	FE	BRUA	ARY 2	2004		
APPROPRIATION/BUDGET	ACTIV	ITY							PROC	SRAM I	ELEM	ENT N	IUMBE	R AND	NAM	E					PROJ	JECT N	IUMBE	ER AN	D NAM	1E						
RDT&E, N /	BA-0)7			1				02056	320N S	Surface	e ASW	/ Comb	oat Sys	tem In	tegration	on				1916	Surfac	e ASV	V Syste	em Imp	rovem	ents		1			
Fiscal Year		20	02			200	03			200	04			20	05			20	06			20	07			20	80	ļ		200	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition/Contract Milestones/Reviews		Cont Awa	ract ard CF	RR SI	RR IBR	SIBR	SIDI	۲								/)15 C				١	New Co	ontract	Award									
AN/SQQ-89A(V)15 Pre-Prdtn Prototype Phase																																
AN/SQQ-89A(V)15 Functional System Development Government Acceptance Test (GAT)			css		css		C	SS-2		SQT																						
AN/SQQ-89A(V)15 Pre-Prdtn Protytype Delivery					terial lered	As	sembly	/ & Te	st	Delive	у																					
AN/SQQ-89A(V)15 Software Delivery to System Integrator				Initial Build 0		Final Build 0															RP Dro								RP Dro			
Test & Evaluation Milestones Developmental Test & Evalua	tion	D	ctive/P ata Co CO-O	assive Ilection			DESI	RON	▲ TRR			DT-II	IAQ	OT-	IIIK							PRP At-S	Build ea Tes	i st						PRP I		
Initial Operational Test & Eval	uation						SHA	REM																				ļ				
Production Milestones			duction act Aw									PRR																				
Deliveries (OPN BLI 9600)																CG (1)				CG (2)				CG (3)				CG (4)				CG (5)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	EBRUARY 2	004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&E, N / BA-07	0205620N S	urface ASW Co	mbat System Ir	ntegration	1916 Surface	ASW System I	mprovements	
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006		1	FY 2009
Prototype Phase		1						
Active/Passive Data Collection (PCO-Ops)								
Contract Award to Lockheed Martin								
Contracts Requirements Review (CRR)								
Initial Software Delivery to System Integrator								
System Integration Requirements Review (SIRR)								
Government Acceptance Test (GAT)		1Q, 4Q						
Integrated Baseline Review (IBR)		1Q						
Pre-Production Prototype Material Ordered		1Q						
System Integration Baseline Review (SIBR)		2Q						
Final Software Delivery to System Integrator		2Q						
System Integration Design Review (SIDR)		3Q						
Pre-Production Prototype Assembly Begins		3Q						
DESRON 15 SHAREM		3Q						
Pre-Production Prototype Test		4Q	1Q					
Test Readiness Review (TRR)			1Q					
System Qualification Test (SQT)			2Q					
Pre-Production Prototype Final Delivery			2Q					
Developmental Test DT-IIIAQ			3Q-4Q					
Preproduction Readiness Review (PRR)			4Q					
Initial Operational Test (OT-IIIK)				2Q				
Initial Operational Capability (IOC)				4Q				
(OPN) Production Delivery to CG47 Class Ship (1)				4Q				
(OPN) Production Delivery to CG47 Class Ships (2)					4Q			
Peer Review Process S/W / H/W Drop - Build 1						1Q		
New Contract Award						2Q		
PRP At-Sea Test - Build 1						2Q-3Q		
(OPN) Production Delivery to CG47 Class Ships (3)						4Q		
(OPN) Production Delivery to CG47 Class Ships (4)							4Q	
Peer Review Process S/W / H/W Drop - Build 2								1Q
PRP At-Sea Test - Build 2								2Q-3Q
(OPN) Production Delivery to CG47 Class Ships (5)								4Q
(= , = ================================								

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:			
						Febru	ary 2004		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENO	CLATURE				
RESEARCH DEVELOPMENT TEST & EVALUATION	RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7 MK48 ADCAP/0205632N								
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
Total PE Cost	21.323	17.036	21.620	22.131	26.018	26.564	27.052		
MK48 ADCAP/0366	21.323	17.036	21.620	22.131	26.018	26.564	27.052		
Quantity of RDT&E Articles	15	6	1	1		1			

- A. (U) Mission Description and Budget Item Justification: MK48 ADCAP RDT&E program executes spiral development of 3 weapon performance improvements in three development product areas: (1) Common Broadband Advanced Sonar System (CBASS); (2) Advanced Processor Builds (APBs), and (3) Torpedo Technology Insertion. The budget enables ACAT III development to address CNO defined capability-based requirements and mission needs. This PE (0205632N/0366) is tied to development programs that leverage a Congressionally funded Torpedo APB program (in PE 0603561N/9039), a joint US/Australia Armaments Cooperative Project to develop MK48 ADCAP, and leverage Future Naval Capability technologies being developed by ONR.
- (U) The MK 48 ADCAP (ADvanced CAPability) torpedo R&D program focuses on two specific areas near term: Torpedo Advanced Processor Builds (APBs) and broadband sonar capability. The Chief of Naval Operations continues to stress shallow water (less than 600 feet) as a critical operating area to counter third world diesel electric submarines. Torpedo testing in shallow water has demonstrated that in-service ADCAP has less than full capability in this difficult environment. However, this testing, in conjunction with laboratory simulation efforts, has shown that significant performance improvements can be made by implementing changes to weapon tactics and software algorithms. Development, implementation and testing of these changes is being accomplished under the Torpedo APB program. This program leverages Future Naval Capability (FNC) technologies being developed by the Office of Naval Research (ONR) in the areas of torpedo broadband signal processing, tactics processing, and alertment.
- (U) Countermeasure (CM) sophistication and availability on the open market directly affects ADCAP kill proficiency and its ability to counter rapidly evolving threats. The focus of the MK 48 ADCAP torpedo R&D program for FY01 and out shifted from being primarily concentrated on Software Block Upgrade efforts towards coordinated hardware upgrades, rapid Commercial-Off-the-Shelf insertion, and Torpedo APBs to rapidly upgrade the ADCAP to counter evolving threats and maintain robust performance. The Common Broadband Advanced Sonar System (CBASS) program will develop and field a broadband sonar capable of identifying CMs and discriminating them from the target. CBASS will develop 22 test articles (2 test vehicles and 20 Engineering Development Models (EDMs)). CBASS met Milestone II requirements on 6 March 1998 and received MDA approval to proceed into EMD. Full rate production and IOC are scheduled for FY06. The Commonwealth of Australia Royal Austrialian Navy (RAN) is participating to jointly develop CBASS torpedo and signed an Armaments Cooperative Project Agreement Mar 2003. The intent of the CBASS program is to achieve improvements in shallow water torpedo performance over current (MK48 Mod 5) capability.
- (U) The Torpedo Technology Insertion program will provide for evolutionary torpedo improvements and upgrades (including the transition and testing of advanced technologies from the R&D community (6.2/6.3) and contractors). This approach will incorporate developmental testing of the Future Naval Capability (FNC) transitioning technologies for ADCAP upgrades in the areas of torpedo sensors, weapon/platform connectivity, warhead lethality, speed and depth. These efforts will continue torpedo development investment at a lower cost and shorter term than traditional torpedo programs.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE:
	February 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	MK48 ADCAP/0205632N
	·

B. Accomplishments/Planned Program

TORPEDO APB	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	7.809	9.123	11.836
RDT&E Articles Quantity*		1	1

^{*} Denotes Torpedo APB software builds

FY03- Conducted additional developmental and operational testing of MK48 ADCAP MODS per TEMP to correct deficiencies.

FY04 - FY05 Torpedo Advanced Processor Build efforts continue in order to address fleet identified performance priorities for MK48 ADCAP MODS and to address broadband algorithms. Provides for rapid delivery of incremental software improvements to fielded MODS torpedoes every 18-24 months. Efforts include software coding, modeling and simulation of software releases (including development and validation of models) and engineering tests in water for evaluation of proposed releases. Conduct validation of safety features for submarine crew safety. Torpedo APB software build release planned in FY05.

CBASS	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	9.601	6.683	7.588
RDT&E Articles Quantity	15	5	

FY03- Integration and delivery of CBASS EDM hardware. 15 CBASS kits (preamplifiers and BSARs) delivered by Northrop Grumman. Continued development of advanced wideband algorithms, signal processing, and tactical software. Begin integration of CBASS prototype hardware and software components and test equipment in preparation for development testing.

FY04- Continue integration of CBASS prototype hardware and software components and test equipment. Conduct software testing, modeling and simulation predictions, and initial check-out in-water testing of EDM vehicles.

FY05- Conduct in-water developmental testing, technical and operational testing with CBASS EDM vehicles. Efforts include torpedo preparations, model validation, post-run analysis, and range preparations.

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:	
		February 2004	
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURI	E	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	MK48 ADCAP/0205632N	I	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	MK48 ADCAP/0205632N		

B. Accomplishments/Planned Program (Cont.)

OPTEVFOR	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.485	0.880	1.000
RDT&E Articles Quantity			

FY03- Provided for COMOPTEVFOR trusted agent test analysis and model validation support.

FY04-FY05 - Provide for accreditation requirements for Mod 7 shallow water environments required prior to OPEVAL and provide developmental test support.

TACDEVEX 01-03	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.459		
RDT&E Articles Quantity			

FY03- Conducted developmental testing of MK48 ADCAP Mod 6 in cold water environments. Efforts included torpedo preparations, modeling and simulation predictions, and post-run analysis, and preparations for required submarine hit-shot certification analysis prior to exercise.

TECHNOLOGY INSERTIONS	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.969	0.350	1.196
RDT&E Articles Quantity			

FY03- Performed fiber optic connectivity technology study and military value analysis.

FY04- Transition torpedo technologies selected under Torpedo Technology Insertion program. Continue advanced technology studies to evaluate and identify the candidate advanced technologies that would provide the greatest performance improvement or increased capability. Define a series of spiral development packages of several hardware improvements and to build on proven torpedo hardware platforms.

FY05- Start development efforts (including planning and systems engineering) that would implement new technologies into the latest MK48 ADCAP torpedoes. Transition torpedo technologies selected under Torpedo Technology Insertion program. Award contracts to industry to develop technologies. Continue analysis of available technology solutions against desired performance objectives.

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EXHIBIT R-2, RDT&E Budget Item Justification	n	DATE:	
		ı	February 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMEN	CLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	MK48 ADCAP/020	5632N	
C. PROGRAM CHANGE SUMMARY:			
Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY 04 Pres Controls)	21.499	17.227	24.234
Current BES/President's Budget (FY 05 Pres Controls):	21.323	17.036	21.620
Total Adjustments	-0.176	-0.191	-2.614
Summary of Adjustments			
FY 03 SBIR	-0.121		
Cancel Accounts	-0.055		0.005
Manpower Adjustment Management Improvement		-0.045	-0.065
Efficiencies (Sec. 8126)		-0.146	
Economic Assumptions		0.110	-0.149
Sea Enterprise (LOE II)			-2.400
Subtotal	-0.176	-0.191	-2.614

Schedule: Delay fiber optic capability by 2 years from FY07 to FY09 due to Level of Effort (LOE) cuts. In addition, delay advanced Sonar IOC by 2 years from FY09 to FY11 and delay delivery of COTS processor upgrade from FY08 to FY10.

Technical: FY05 -- Limit scope of tradeoff studies, Torpedo APB systems engineering, and Algorithm development as a result of reductions.

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Exhibit R-2, RDT&E Budget Item Justification (Exhibit R-2, page 4 of 9)

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EXHIBIT R-2, RDT&E BU	EXHIBIT R-2, RDT&E Budget Item Justification DAT							
							ary 2004	
APPROPRIATION/BUDGET ACTIVITY		F	R-1 ITEM NOM	ENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7 MK48 ADCAP/0205632N								
D. OTHER PROGRAM FUNDING SUMMARY:								To
	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete
MK48 ADCAP MODS								CONT.
(WPN/PE0204284N/BA-3/P-1 Item 322500)	60.624	59.923	61.185	62.092	63.090	64.710	66.088	
Sub. Tactical Warfare Systems								
(RDT&E/PE0603562N/BA-4)	12.502	6.948	5.957	6.650	9.889	9.993	10.283	
Advanced Submarine Systems								
(RDT&E/PE0603561N/BA4)	126.891	92.539	81.160	117.311	116.065	138.838	136.507	

E. ACQUISITION STRATEGY:

CBASS EMD contract was competitively awarded among qualified ADCAP producers.

Contract award planned in FY 2004 for MK48 ADCAP MODS, Lightweight MK54 and CBASS kits, including RAN units.

F. MAJOR PERFORMERS:

NUWC Division Newport, Newport, RI - Continued integration of CBASS prototype hardware and software components and test equipment. Continued in-water testing to support algorithm development and initial software builds.

Northrop Grumman, Annapolis, MD - Initiated fabrication of CBASS EDM hardware and delivered fifteen (15) CBASS kits (preamps and BSARs)

R-1 SHOPPING LIST - Item No. 178

Exhibit R-2, RDT&E Budget Item Justification (Exhibit R-2, page 5 of 9)

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									DATE:				
Exhibit R-3 Cost Analysis (pag	ge 1)										February 200)4	
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E	LEMENT			PROJECT N	AME AND NU	MBER				
RDT&E, N/BA-7 MK48 ADCAP/0205632N MK48 ADCAP/0366													
Cost Categories	Contract	Performing	•	Total		FY 03		FY 04		FY 05			
(Tailor to WBS, or System/Item	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	WR	NUWC NPT		CONT.	0.000	10/02	0.776	10/03	1.205		CONT.	CONT.	N/A
Primary Hardware Development	Various	Various - TBD)	0.000	0.000		0.000		0.096	11/04	CONT.	CONT.	N/A
Primary Hardware Development	C,CPIF	Northrop Grur	mman	27.770	3.904	11/02	0.200	11/03	0.200	11/04	0.000	32.074	32.074
Ancillary Hardware Development	C,CPFF	TRI / Austin		0.000	0.075	01/03	0.000		0.000				N/A
Systems Engineering	WR	NUWC NPT		CONT.	6.252	10/02	5.570	10/03	6.059	10/04	CONT.	CONT.	N/A
Licenses													
Tooling													
GFE													
Award Fees			<u>.</u>										
Subtotal Product Development				CONT.	10.231		6.546		7.560		CONT.	CONT.	

Remarks: Total Cost and Target Value of Northrop Grumman contract represents contract Latest Revised Estimate based on completed negotiations and CBASS hardware technical requirements. Various - TBD; Primary hardware development activity to be selected after evaluation of technologies from various vendors.

Development Support Equipment												
Software Development	WR	NUWC NPT	CONT.	3.023	10/02	3.867	10/03	3.978	10/04	CONT.	CONT.	N/A
Software Development	Various	Various	0.000	0.681	11/02	0.237	12/03	0.300	12/04	CONT.	CONT.	N/A
Software Development	C,CPFF	ARL / PSU	0.000	0.217	05/03	0.353	12/03	0.650	12/04	CONT.	CONT.	N/A
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			CONT.	3.921		4.457		4.928		CONT.	CONT.	

Remarks: FY03 software development includes small business and industry participants (Paul Greenblatt Consulting, Anteon Corporation, Lockheed Martin) in the Torpedo APB program.

R-1 SHOPPING LIST - Item No. 178

Exhibit R-3, Project Cost Analysis (Exhibit R-3, page 6 of 9)

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									DATE:				
Exhibit R-3 Cost Analysis (pa											February 20	04	
APPROPRIATION/BUDGET ACT	IVITY		PROGRAM EL	EMENT			PROJECT N	PROJECT NAME AND NUMBER					
RDT&E, N/BA-7			MK48 ADCAP/0205632N			MK48 ADC	AP/0366						
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
Tailor to WBS, or System/Item	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Test & Evaluation	WR	NUWC NPT		CONT.	2.813	10/02	2.760	10/03	4.919	10/04	CONT.	CONT.	N/A
Operational Test & Evaluation	WR	OPTEVFOR		CONT.	0.485	11/02	0.880	11/03	1.000	11/04	CONT.	CONT.	N/A
Modeling & Simulation	WR	NUWC NPT		CONT.	2.407	10/02	1.675	10/03	2.362	10/04	CONT.	CONT.	N/A
Modeling & Simulation	Various	MIT		CONT.	0.650	11/02							
GFE													
Subtotal T&E				CONT.	6.355		5.315		8.281		CONT.	CONT.	
Contractor Engineering Support Government Engineering Support													
Program Management Support	Various	Anteon		CONT.	0.500	MISC.	0.500	MISC.	0.500	MISC.	CONT.	CONT.	N/A
Travel				CONT.	0.045		0.020		0.045		CONT.	CONT.	N/A
Labor (Research Personnel)													
Overhead				CONT.	0.271		0.198		0.306		CONT.	CONT.	N/A
Subtotal Management				CONT.	0.816		0.718		0.851		CONT.	CONT.	
Remarks:													
Total Cost				CONT.	21.323		17.036		21.620		CONT.	CONT.	
Remarks:													

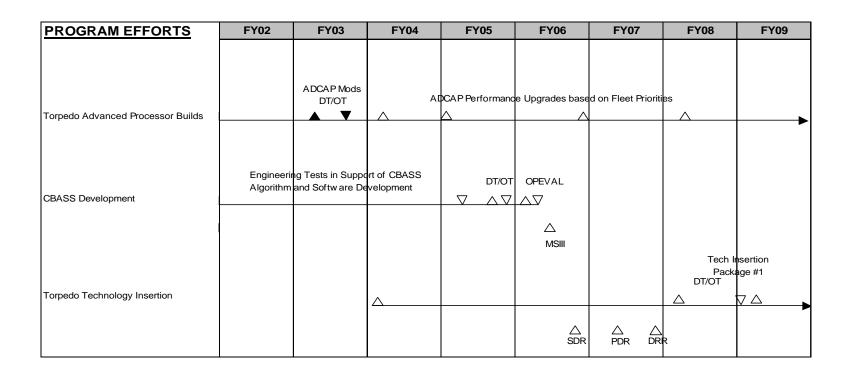
R-1 SHOPPING LIST - Item No. 178

Exhibit R-3, Project Cost Analysis (Exhibit R-3, page 7 of 9)

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EXHIBIT R-4, Schedule Profile		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7	MK48 ADCAP/0205632N	



R-1 SHOPPING LIST - Item No. 178

Exhibit R-4, RDT&E Budget Item Justification (Exhibit R-4, page 8 of 9)

Exhibit R-4a, Schedule Detail					DATE:				
						February 200	4		
APPROPRIATION/BUDGET ACTIVITY				PROJECT NUMB	ER AND NAME				
RDT&E, N/BA-7				MK48 ADCAP/0366					
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
Torpedo Advanced Processor Build									
Developmental/Operational Testing	2Q-3Q								
Software Delivery		1Q	1Q	4Q		2Q			
CBASS Development									
Engineering Tests	1Q-4Q	1Q-4Q	1Q-2Q						
Algorithm Development	1Q-4Q	1Q-4Q	1Q-2Q						
Developmental/Operational Testing			3Q-4Q						
Operational Evaluation (OPEVAL)				1Q-2Q					
Milestone III (MSIII)				2Q					
Torpedo Technology Insertion									
Study Phase/System Development		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
System Design Review (SDR)				4Q					
Priliminary Design Review (PDR)					2Q				
Design Readiness Review (DRR)					4Q				
Developmental/Operational Testing						2Q-4Q	1Q		
Technology Insertion Package #1							2Q		

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(Exhibit R-4a, page 9 of 9)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
-						Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENO	CLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA-7			PE 0205633N / Avi	ation Improvement	S	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	38.878	68.552	62.635	68.847	67.305	61.895	62.370
W0601 Common Ground Equipment	3.614	3.131	2.664	2.983	3.024	3.103	3.158
W0852 Consolidated Automated Support System (CASS)	6.284	6.370	5.456	6.722	6.817	6.963	7.097
W1041 A/C Equip Reliability/Maintainability Improvement Program	0.595	1.431	2.079	3.008	3.107	2.358	2.867
W1355 Aircraft Engine Component Improvement Program (CIP)	28.385	48.473	52.436	56.134	54.357	49.471	49.248
W9109 Aircraft Exploration Model Development		3.708					
W9426 Automated Wire Analysis		2.967					
H9427 Digital Integrated Cockpit Display		0.989					
W9428 Navair Technology Commercialization		1.483					

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

W0601 - Common Ground Equipment is a Naval Aviation Project to apply new technology to common support equipment necessary to support multiple aircraft. W0582 - Consolidated Automated Support System (CASS) is a standardized Automated Test Equipment (ATE) with computer assisted, multi-function capabilities to support the maintenance of aircraft subsystems and missiles. W1041 - Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) is the only Navy program that provides engineering support for in-service out-of-production aircraft equipment, and provides increased readiness at reduced operational and support cost. W1355 - Aircraft Engine Component Improvement Program (CIP) develops reliability and maintainability (R&M) and safety enhancements for in-service Navy aircraft engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, fuel systems , fuels, and lubricants. W9109 - Aircraft Age Exploration Model for Naval Aircraft platforms. The model will use existing Naval Aircraft data to establish connections between age and reliability, maintainability, and readiness and will provide the Navy with a valuable tool for understanding, predicting, and communicating impacts of decisions to extend aircraft service lives and for mitigating risks associated with these decisions. This is a continuation of efforts initiatied in FY02 to add enhanced functionallity to include automatic identification of reliability degredation items and automatic tracking of actuals against model generated predictions. W9426 - Current practices have technicians perform electrical testing on aircraft using both manual and automated methods. Once a short or open is found using existing test equipment, the technician must then find the physical location of the fault, one wire at a time, using pin-to-pin tests with handheld multi-meters and visual inspection. This generally involves at least two individuals connecting leads to each end of a wire to be tested. This is a slow process and re

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLAT	TURE
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PE 0205633N / Aviation	Improvements
H9427 - The TH-57 Helicopter is the Navy's only primary helicopter pilot training platform, and is excockpits by 2012. To remain viable as an effective training platform, which meets the training requieffect greater aircraft training utilization. Research and Development funds will be utilized to produce requirements and provides increased hard landing/crash and exceedence warning system protectic Crew Systems/Human System Integration, Logistics Support Analysis, and Aircraft Integration. We commercial technology for Naval Avaition Applications.	rements of an all digital helicopter fleet, the ce a product that keeps pace with the rapic on to aircrews. The following areas will be	e TH-57 cockpit can best utilize a digital design to dly changing fleet helicopter pilot training explored Requirement Analysis, Cost Estimation,
(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it e systems.	encompasses engineering and manufacturi	ing development for upgrade of existing, operational

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							FEBRUA	RY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0205633N Aviation	Improvements			W0601 Common G	Fround Equipment		
COST (\$ in Millions)		FY 2003	FY 2004	*FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		3.614	3.131	2.664	2.983	3.024	3.103	3.158
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Common Ground Equipment is a Naval Aviation Project to apply new technology to common support equipment necessary to support multiple systems/aircraft within the Navy. The common support equipment items developed with this budget is briefed to the Air Force, Army and Coast Guard for possible use in joint procurement in the production phase.

The items procured with this budget are new technology items that are required to meet fleet aircraft requirements in both testing and loading of aircraft systems.

*\$0.3M was identified in the prior years to forward finance future year requirements and the corresponding reduction was made in FY 2005.

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N / BA-7	0205633N Aviation Improvements	W0601 Common Ground Ed	luipment	
	·			

B. Accomplishments/Planned Program

	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				0.080
RDT&E Articles Quantity				

Turboprop Engine Test Instrumentation (TETI) The Turboprop Engine Test Instrumentation (TETI) program objective is to provide an integrated computer based measurement and automation system for Intermediate Maintenance level testing of Navy/Marine Turboprop engines. The acquisition approach is to develop, acquire, validate, deploy and support production configurations of TETI and Test Program Sets (TPS), utilizing the existing Jet Engine Test Initiative (JETI) technology, and integrate this capability into existing land based engine test systems. This enhanced capability will allow for full performance engine testing of the T56 Series Turboprop engines. An ECP will be developed to upgrade the existing engine test systems

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.951	2.781	2.584
RDT&E Articles Quantity			

Next Generation Munitions Handler (NGMH) - R&D program to develop robotic weapons loader for both ship and shore with primary focus on targeting future weapons and aircraft. Plan is to support CVNX initiatives and to back-fit current CVs and amphibious ships. Utilize technology features developed under NGMH program.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.663	0.350	
RDT&E Articles Quantity			

Shaft Engine Test Instrumentation (SETI) Program objective is to provide an integrated computer based measurement and automation system for Intermediate Maintenance level testing of Navy/Marine Turbo shaft engines. The acquisition approach is to develop, acquire, validate, deploy and support production configurations of SETI and Test Program Sets (TPS), utilizing the existing Jet Engine Test Initiative (JETI) technology, and integrate this capability into existing land based (A/E372T-24) and (A/F37T-16) engine test systems. This enhanced capability will allow for full performance engine testing of the T58, T64, and T700 Turbo shaft engines. An ECP will be developed to upgrade the existing engine test systems.

CLASSIFICATION:

KHIBIT R-2a, RDT&E Project Justification				DATE: FEBRUARY 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AN	
DT&E, N / BA-7	0205633N Aviation Improvements		W0601 Common Ground	nd Equipment
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2003	FY 2004	FY 2005	
Previous President's Budget:	3.361	3.166	2.660	
Current BES/President's Budget	3.614	3.131	2.664	
Total Adjustments	0.253	-0.035	0.004	
Summary of Adjustments				
SBIR/STTR Transfer	-0.035			
Reprogrammings	0.288			
Congressional Undistributed Reducti	ons	-0.035		
Economic Assumptions			0.004	
Subtotal	0.253	-0.035	0.004	
Schedule:				
Milestone A and the prototype phase slipped	due to testing issues during Small Business Innov	tion Researc	n Phase.	
. 21	ů ů			
Technical:				
Not Applicable				

CLASSIFICATION:

IIBIT R-2a, RDT&E	Project Justification							DATE:	EEDE	RUARY 2004
ROPRIATION/BUDGET	ACTIVITY	PROGRAM EL	EMENT NUME	BER AND NAM	IE	PROJECT NUI	MBER AND NA	AME	FEDR	WAK 1 2004
&E, N /	BA-7	0205633N Avia	ation Improvem	nents		W0601 Commo	on Ground Equ	ipment		
D. OTHER PROGRAI	M FUNDING SUMMARY:									
Line Item No. & Nan	<u>ne</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>
APN 070500 Grou Related RDT&E:	und Support Equipment Not Applicable	159.809	194.976	217.688	196.983	189.255	184.192	174.304	Continuing	Continuing
E. ACQUISITION STRA	TEGY:									
This is a non-ACA	TEGY: AT program. Field activities propos DAG) process selects projects to t			panel merits an	nd selects proj	ects. Field activ	vities develop p	projects and s	ubmit results.	Operational
This is a non-ACA	AT program. Field activities propos			panel merits an	nd selects proj	ects. Field activ	vities develop p	projects and s	ubmit results.	Operational
This is a non-ACA	AT program. Field activities propos DAG) process selects projects to t			panel merits an	nd selects proj	ects. Field activ	vities develop p	projects and s	ubmit results.	Operational
This is a non-ACA Advisory Group (0	AT program. Field activities propos DAG) process selects projects to t			panel merits an	nd selects proji	ects. Field activ	vities develop p	projects and s	ubmit results.	Operational
This is a non-ACA Advisory Group (C	AT program. Field activities propos DAG) process selects projects to t			panel merits an	nd selects proj	ects. Field activ	vities develop p	projects and s	ubmit results.	Operational

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pa	ge 1)										FEBRUARY 2	004	
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E	LEMENT			PROJECT NU	JMBER AND I	NAME				
RDT&E, N / BA-7			0205633N Avi		nents		W0601 Comn						
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various		12.837		+	2.305		1.899	03/05	Continuing		
Ancillary Hardware Development	7 41.10 410	7 41.10 40		12.007		02/00		12,00	1.000	00,00	001111119	00.11	
Aircraft Integration													
Ship Integration													
Ship Suitability													
Systems Engineering	Various	Various					0.466	12/03	0.400	03/05	Continuing	Continuing	
Training Development												-	
Licenses													
Tooling													
GFE													
Award Fees													
Subtotal Product Development				12.837	1.78	7	2.771		2.299		Continuing	Continuing	
Development Support	Various	Various		4.139	1.77	02/03	0.035	12/03	0.030	12/04	Continuing	Continuing	
Software Development											_	-	
Integrated Logistics Support	Various	Various					0.060	12/03	0.060	12/04	Continuing	Continuing	
Configuration Management													
Technical Data													
Studies & Analyses	Various	Various					0.030	12/03	0.030	12/04	Continuing	Continuing	
GFE													
Award Fees													
Subtotal Support				4.139	1.77	7	0.125	5	0.120		Continuing	Continuing	
Remarks:													

CLASSIFICATION:

										DATE:				
Exhibit R-3 Cost Analysis (page	e 2)											FEBRUARY 20	004	
APPROPRIATION/BUDGET ACTIVI	TY		PROGRAM EL	EMENT				PROJECT NU	IMBER AND N	IAME				
RDT&E, N / BA-7			0205633N Avia	ation Improv	emen	ts		W0601 Comm	on Ground Ed	quipment				
Cost Categories	Contract	Performing		Total			FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY	′ 03	Award	FY 04	Award		Award	Cost to		Target Value
	& Type	Location		Cost	Co		Date	Cost	Date	Cost	Date	Complete		of Contract
DT&E - SETI	Various	Various		1.0	34	0.050	02/03						1.084	
DT&E - NGMH	Various	Various						0.060	12/03			Continuing	Continuing	
DT&E - TETI	Various	Various								0.080	12/04	Continuing	Continuing	
Test Assets														
Tooling														
GFE														
Award Fees														
Subtotal T&E				1.0	34	0.050		0.060		0.080		Continuing	Continuing	
Contractor Engineering Support	Various	Various						0.025	12/03	0.025	12/04	Continuing	Continuing	
Government Engineering Support	Various	Various						0.060	12/03	0.050	12/04	Continuing	Continuing	
Program Management Support	Various	Various						0.075	12/03	0.075	12/04	Continuing	Continuing	
Travel	Various	Various						0.015	12/03	0.015	12/04	Continuing	Continuing	
Transportation														
SBIR Assessment														
Subtotal Management				0.0	00	0.000		0.175		0.165		Continuing	Continuing	
Remarks:														
Total Cost				18.0	10	3.614		3.131		2.664		Continuing	Continuing	
Remarks:														

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE		FE	BRUA	ARY 2	2004		
APPROPRIATION/BUDGE RDT&E, N /	Γ ΑCΤΙVΙ ΒΑ-7											ENT N Impro		R AND	MAN C	E					PROJ W060				D NAM							
Fiscal Year						20	03		02000	20				20	05			20	006			20		<i>2.00</i>		20	08			200	9	
Tibodi Todi	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones NGMH							MS A								M	В 									M:	s c						
Prototype Phase																																
Radar System Development																																
EDM Radar Delivery																																
Software 1XXSW Delivery 2XXSW Delivery																																
Test & Evaluation Milestones NGMH Development Test Operational Test															De	velopn	nental [*]	Testing	9			Opera	tional [°]	Testin	9							
Production Milestones NGMH LRIP FY 07																					LF	RIP							^			
FRP FY 09																												F	RP St	art		
Deliveries NGMH																										LRIP ((3)					

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: FE	BRUARY 2	004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NAME			
RDT&BA-7		riation Improven	nents			on Ground Equipment			
	020000011710			EV 2005			•	EV 2000	
Schedule Profile NGMH		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Prototype Phase		3Q-4Q	1Q-4Q	1Q-2Q					
Milestone A		3Q		00.40	10.10				
Developmental Testing				3Q-4Q	1Q-4Q				
Milestone B				4Q		10.10	40		
Operational Testing						1Q-4Q	1Q		
Start Low-Rate Initial Production (LRIP)						1Q-4Q	1Q-2Q		
Milestone C		 			1		1Q		
Low-Rate Initial Production I Delivery							2Q	40	
Full Rate Production Start								1Q	

R-1 SHOPPING LIST - Item No. 179

UNCLASSIFIED

Exhibit R-4a, Schedule Detail (Exhibit R-4a, page 10 of 63)

CLASSIFICATION:

EVIJIDIT D.O. DDT0 F.Droin et Justification							DATE	
EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUA	RY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	ER AND NAME	i EBROX	200-7
RDT&E, N / BA-7	0205633N Aviation	Improvements			W0852 Consolidate	ed Automated Supp	oort System	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005*	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		6.284	6.370	5.456	6.722	6.817	6.963	7.097
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Consolidated Automated Support System (CASS) project designs and develops modular automated test equipment with computer-assisted, multi-function test capability, standardized hardware, and standard software elements. CASS responds to Fleet Commanders' expressed requirements to correct serious deficiencies in existing automatic test equipment. Program objectives are: (1) increase material readiness; (2) reduce life cycle costs; (3) improve tester sustainability at depot and intermediate maintenance levels; (4) reduce proliferation of unique test equipment, and (5) provide test capability for existing and emerging avionics/electronics systems.

Technologies being developed include synthetic instruments, new ATFLIR electro-optics capability, multi-analog test capability to enable functional testing, and CASS station modernization elements.

* \$1.2M was identified in prior years which could forward finance future year requirements and the corresponding adjustment was made in FY 2005.

R-1 SHOPPING LIST - Item No.

179

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N / BA-7	0205633N Aviation Improvements	W0852 Consolidated Autom	ated Support System

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	3.215		
RDT&E Articles Quantity			

Synthetic Instrument Package

Provides for development, integration and test of a package of synthetic instruments which will enable the replacement of several discrete test instruments with synthetic instruments. Objectives are significantly improve technical performance, ameliorate obsolescence, lower ownership costs of CASS, and reduce footprint.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	3.069	0.400	1.000
RDT&E Articles Quantity			

CASS Station Upgrades

Provides technologies for upgrading CASS station test capability to test emerging weapon system requirements. Includes development of an inertial reference capability to facilitiate support of Inertial Measurement Systems as well as modifications to the design of RTCASS necessitated by technical problems encountered during DT&E.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		2.400	0.659
RDT&E Articles Quantity			

Electro-Optic capability

Develops a downsized electro-optic support system to enable RTCASS to provide support for Marine Air FLIR and LASER Targeting systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			FEBRUARY 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME	
RDT&E, N / BA-7	0205633N Aviation Improvements	W0852 Consolidated Autom	nated Support System	

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.570	3.797
RDT&E Articles Quantity			

CASS Modernization development

Develops and integrates the technologies that will comprise the Modernization Program for the early lots of CASS stations which will be modernized and updated to current testing technologies while maintaining full compatibility with the legacy test program sets.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUME	
RDT&E, N / BA-7	0205633N Aviation Improvements	W0852 Consolida	ated Automated Support System
C. PROGRAM CHANGE SUMMARY:			
Funding:	FY 2003	FY 2004 FY 2005	
Previous President's Budget:	6.594	6.442 6.390	
Current BES/President's Budget	6.284	6.370 5.456	
Total Adjustments	-0.310	-0.072 -0.934	
Summary of Adjustments			
SBIR/STTR Transfer	-0.095		
Reprogrammings	-0.215		
Congressional Undistributed Reduction	ns	-0.072	
Other Adjustments		-0.941	
Economic Assumptions		0.007	
Subtotal Schedule:	-0.310	-0.072 -0.934	
Concadio.			
Not Applicable			
Technical:			
Not Applicable			
Troit i ppiloabio			

CLASSIFICATION:

IBIT R-2a, RDT&E F	•								FEBR	UARY 2004	
ROPRIATION/BUDGET /	ACTIVITY	PROGRAM EL	EMENT NUME	BER AND NAM	E	PROJECT NUM	MBER AND NA	ME			
T&E, N /	BA-7	0205633N Avia	ation Improvem	nents		W0852 Consoli	dated Automa	ted Support S	System		
D. OTHER PROGRAM	FUNDING SUMMARY:								_	T	
Line Item No. & Nam	<u>e</u>	_ <u>FY 2003</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>	
APN 070500 CAS Related RDT&E: N		86.756	91.699	76.574	86.364	88.291	90.413	92.186	Continuing	Continuing	
Procurement strate	ology reviews with industry are coregy is determined by market survents the SIP supplier.										
	RS:										
F. MAJOR PERFORME											
F. MAJOR PERFORME											

CLASSIFICATION:

										DATE:				
Exhibit R-3 Cost Analysis (pag	e 1)											FEBRUARY 20	004	
APPROPRIATION/BUDGET ACTIV			PROGRAM EL	EMENT.				PROJECT NU	JMBER AND I	NAME				
RDT&E, N / BA-7			0205633N Avia		vements	i		W0852 Consc		nated Support S	ystem			
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY (FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development - SI	Various	Various			517	2.90	+	0031	Date	COST	Date	Continuing	Continuing	
Hardware Development - Upgrades	Various	Various			652	3.05	1	0.400	Various	0.750	Various	Continuing	Continuing	
Hardware Development - EO	FFP	LKE		20.	002	0.00	Various	2.400		0.600	02/05	Continuing	Continuing	
Hardware Development - Mod	FFP	LKE						2.070		2.847	Various	Continuing	Continuing	1
Ship Suitability														
Systems Engineering														
Training Development														
Licenses														
Tooling														
GFE														
Award Fees														
Subtotal Product Development				27.	.169	5.96	0	4.870)	4.197		Continuing	Continuing	
Development Support - SI	TBD	TBD							Various			Continuing	Continuing	
Development Support - Upgrades	TBD	TBD						0.250	Various	0.250	Various	Continuing	Continuing	
Development Support - EO	TBD	TBD						0.500	Various	0.059	Various	Continuing	Continuing	
Development Support - Mod	TBD	TBD						0.400	Various	0.600	Various	Continuing	Continuing	
Technical Data														
Studies & Analyses														
GFE														
Award Fees														
Subtotal Support				0	.000	0.00	0	1.150		0.909		Continuing	Continuing	
Remarks:														

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (page 2)		DDOOD AM ELEMENT				IDDO IFOT NI	IMPED AND	NIANAE		FEBRUARY 2	004	
APPROPRIATION/BUDGET AC RDT&E, N / BA-7	HIVIIY		PROGRAM ELEMENT				PROJECT NU						
Cost Categories	Contract	Performing	0205633N Aviation Imp Total	roveme		FY 03	WU852 Consc	FY 04	mated Support S	FY 05			1
Cost Categories	Method & Type	Activity & Location	PY s Cost		FY 03	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
DT&E													
DT&E													
DT&E													
Test Assets													
Tooling													
GFE													
Award Fees													
Subtotal T&E				0.000	0.000		0.000		0.000)	Continuing	Continuing	1
Contractor Engineering Support													
Government Engineering Support													
Program Management Support													
Travel				0.300	0.324	12/02	0.350	12/03	0.350	12/04	Continuing	Continuing	j
Transportation													
SBIR Assessment													
Subtotal Management				0.300	0.324		0.350)	0.350)	Continuing	Continuing	j
Remarks:													
Total Cost			2	7.469	6.284		6.370)	5.456	3	Continuing	Continuing	ı T
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile																								DATE	:						
																											FEI	BRU	ARY 2	004		
APPROPRIATION/BUDGET	ACTIV	ITY							PROG	RAM	ELEM	ENT N	UMBE	R AND	NAM	E					PROJE	ECT N	UMBE	RAND	NAN C	1E						
RDT&E, N /	BA-7	7							02056	33N A	viation	Impro	vemer	nts							W0852	2 Cons	olidate	d Auto	omate	d Supp	ort Sys	stem				
Fiscal Year		20	002			20	03			200	04			200	05			20	006			200	07			20	08			200)9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
Synthetic Instruments Contract Award		A																														

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						FI	EBRUARY 2	004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&BA-7	0205633N Avi	ation Improven	nents		W0852 Conso	lidated Automa	ated Support Sy	/stem
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Synthetic Instruments Contract Award	2Q							

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0205633N, Aviation	n Improvements			W1041, Aircraft Equipm	ent Reliability/Maintaina	bility Improvement Progr	ram (AERMIP)
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		0.595	1.431	2.079	3.008	3.107	2.358	2.867
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

AERMIP is the only Navy program which provides Research, Development, Test & Evaluation (RDT&E) engineering support specifically for in-service, out-of-production aircraft equipment. AERMIP increases readiness through Reliability and Maintainability (R&M) and safety improvements to existing systems and equipment installed in Naval aircraft. It also provides a transition vehicle to deploy Total Ownership Cost (TOC) reduction initiatives through flight-test support and Fleet Test & Evaluation. It meets affordable readiness objectives by providing a cost-effective solution to obsolescence problems encountered when service lives are extended. AERMIP promotes commonality and standardization across aircraft platform lines and among the services through extension of application and use of non-developmental items. AERMIP also decreases life cycle costs through reduced operational and support costs. AERMIP facilitates the Operational, Safety and Improvement Program by applying proven low-risk solutions to current fleet problems. AERMIP also funds high priority flight testing which is not associated with any acquisition or development program under the Flight Test General (FTG) task.

R-1 SHOPPING LIST - Item No.

179

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	ÎAME
RDT&E, N /	0205633N, Aviation Improvements	W1041, Aircraft Equipment	Reliability/Maintainability Improvement Program (AERMIP)

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.214	0.000	0.000
RDT&E Articles Quantity			

Aircraft Canopy Crazing Mitigation

Canopies on navy aircraft craze much more rapidly than the counterparts in the Air Force and commercial aviation. This effort addressed the interactions of the canopy materials, the Navy (salt water) environment and the chemicals used to clean and maintain the canopies to determine the mechanisms responsible for the premature crazing. The deliverable was a report detailing the finding and changes to the maintenance practices as required to increase the life of the canopies.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.081	0.152	0.403
RDT&E Articles Quantity			

Investigate High Value Return on Investment Candidates

Opportunities and issues arise yearly that demand immediate attention to provide significant benefit or to avert an unanticiapted problem. AERMIP actively pursues these issues and opportunities and responds quickly to implement a solution. Products are a qualified material or piece of equipment and the procedures/process required for its implementation.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.150	0.300	0.335
RDT&E Articles Quantity			

Corrsion Barriers Tapes and Films

Over the last decade a number of barrier protection products (Applique', Av DEC, Gore gaskets, etc...) have been developed claiming significant improvement in corrosion protection while also promising reduced maintenance burden to maintain. Individual products have been investigated but no efforts have been made to comparatively test the family of products to determine the best products and practices. This effort will result in quantifiable assessment of the current state of the art and the required validation for the best of breed to be implemented into the fleet as the best practice. Effort follows and compliments recently completed effort on corrosion preventative compounds and continues the efforts for a complete corrosion protection plan.

R-1 SHOPPING LIST - Item No. 179

Exhibit R-2a, RDTEN Project Justification(Exhibit R-2a, page 21 of 63)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME
RDT&E, N /	0205633N, Aviation Improvements	W1041, Aircraft Equipment	Reliability/Maintainability Improvement Program (AERMIP)

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.150	0.300	0.000
RDT&E Articles Quantity			

Arc Fault Circuit Breaker

The previous tests installed six arc fault circuit breakers (AFCB) after testing the AFCB at Naval Air Station (NAS) Patuxent River for shock, vibration, electrical, electromagnetic interference (EMI), temperature and altitude. The AFCB were flown in the C-9B aircraft for six months accumulating over 300 flights and over 500 flight hours. However, no system level tests for AFCB were performed. This effort is to install approximately 80 - 115 volt, 400 Hz single phase AFCB on a C-9 Cargo/Transport aircraft to prevent arcing faults from starting fires. The test would show that on a commercial jet aircraft that the AFBC would work through system level Electro Magnetic Compatability (EMC) and lighting events.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.359	0.460
RDT&E Articles Quantity			

ASQ-208

Project will flight test and qualify a digital magnetic abnomality detector (MAD) to replace the current poor performing MAD. New equipment will reduce the number of sub-assemblies from 13 to 4 and reduce the space, weight and power consumption required by the old unit.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.320	0.535
RDT&E Articles Quantity			

APN-202 Improvement Program

Perform validation/verification of replacement APN-202 system

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	tion			DATE: February 2004						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND I	NAME	PROJECT NUMBER AND N							
RDT&E, N /	0205633N, Aviation Improvements			Reliability/Maintainability Improvement Program (AERMII						
·					<u></u>					
3. Accomplishments/Planned Program (Cont.)										
		FY 03	FY 04	FY 05						
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.346						
RDT&E Articles Quantity										
Smart Wire										
	al Research (ONR) funded technology developm	ent by conducti	ng full aircraft flight test and de	eveloping plans and procedure	es for fleet wide					
implementation.	, ,	•								
		FY 03	FY 04	FY 05						
Accomplishments/Effort/Subtotal Cost										
RDT&E Articles Quantity										
		FY 03	FY 04	FY 05						
Accomplishments/Effort/Subtotal Cost										
RDT&E Articles Quantity										

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUM	MBER AND NAME
RDT&E, N / BA-7	0205633N, Aviation Improvements		W1041, Aircraft I	ft Equipment Reliability/Maintainability Improvement Program (AERMIP
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2003	FY 2004	FY 2005	
FY 2004 President's Budget	0.606	1.447		
FY 2005 President's Budget	0.595	1.431	2.079	
Total Adjustments	-0.011	-0.016	0.001	
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions	3	0.016		
Congressional rescissions				
SBIR/STTR Transfer			0.004	
Economic Assumptions Reprogrammings	-0.011		0.001	
Other Adjustments	-0.011			
Congressional increases				
Subtotal	-0.011	0.016	0.001	
Schedule:				
Not Applicable				
Tochnical				
Technical:				
Not Applicable				
<u> </u>	P-1 SHOPPING LIST - It	NI-	170	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E	Project Justification							DATE:		
APPROPRIATION/BUDGET	T ACTIVITY	DDOCDAM EI	EMENT NI IM	BER AND NAM	IC	PROJECT NU	MDED AND N	^ N / ⊏	Februa	ry 2004
RDT&E, N /		0205633N, Av			IE				tainahility Improve	ement Program (AERMIP)
RDIGE, N 7	DA-I	020303311, AV	iation improve	IIICIIIS		W 1041, Alicia	it Equipment is	teliability/iviali1	talliability illiprove	ement Flogram (ALKWIF)
D. OTHER PROGRA	AM FUNDING SUMMARY:									
Line Item No. & Na	<u>nme</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>
0205633N, Auto	aft Exploration Model Development, W9109 mated Wire Analysis, W9426 AIR Technology Commercialization, W9428									
E. ACQUISITION STR. Not applicable	ATEGY:									
F. MAJOR PERFORM	ERS:									

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	ge 1)									February 20	04	
APPROPRIATION/BUDGET ACTIV	'ITY	PROGRAM				PROJECT N						
RDT&E, N / BA-7	_		Aviation Improve	ements		W1041, Aircra		Reliability/Maint	ainability Imp	rovement Program (A	AERMIP)	
Cost Categories	Contract	Performing	Total	E)/ 00	FY 03	F)/ 04	FY 04	E) (05	FY 05	0	T-1-1	T () (- 1
	Method & Type	Activity & Location	PY s Cost		Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	и туро	EGOGRIGH	0001	0000	Bato	0001	Duio	0001	Bato	Complete	0001	or contract
Ancillary Hardware Development												
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering												
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.000	0.000		0.000)	0.000		0.000	0.000	
											_	
Development Support												
Software Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses	WX	NAWCAD Patuxent River, M	D 8.659	0.412	10/02	1.251	10/03	1.859	10/04	Continuing	Continuing	
GFE				1								
Award Fees				1							_	
Subtotal Support			8.659	0.412	!	1.251	1]	1.859)	Continuing	Continuing	
Remarks:												
L			D_1 QUOI	PPING LIST.	Itom No	170						

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)									February 200	4	
APPROPRIATION/BUDGET ACTIV	ITY	PROGRAM EI	EMENT			PROJECT N	JMBER AND	NAME				
RDT&E, N / BA-7		0205633N, Av	iation Improvei	nents		W1041, Aircra	aft Equipment	Reliability/Maint	ainability Impr	ovement Program (A	ERMIP)	
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method			FY 03	Award	FY 04	Award	FY 05	Award		Total	Target Value
Developmental Track 0 Feelow Co.	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets							1					
Tooling							1					
GFE												
Award Fees												
Subtotal T&E			0.000	0.000		0.000	D	0.000)	0.000	0.000	
Contractor Engineering Support	ss/cpff	Raytheon, Indianapolis, IN	0.720	0.090	11/02	0.090	11/03	0.090	11/04	0.900	1.890	1.890
Contractor Engineering Support	ss/cpff	Eagle Systems, Patuxent River,	0.000	0.043	11/02						0.043	0.043
Program Management Support	WX	NAWCAD, Patuxent River, MD		0.040	10/02	0.080	10/03	0.120	10/04	Continuing	Continuing	
Travel	WX	NAWCAD, Patuxent River, MD		0.010	10/02	0.010	10/03	0.010	10/04	Continuing	Continuing	
Transportation												
SBIR Assessment												
Subtotal Management			0.720	0.183		0.180)	0.220		Continuing	Continuing	
Remarks:												
Total Cost			9.379	0.595		1.431	1	2.079)	Continuing	Continuing	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																									DATE		ı	Februa	ry 200	4		
APPROPRIATION/BUDGET ACTIV									PROG						NAM C	E					PROJ											
RDT&E, N /	BA-7								02056	0205633N, Aviation Improvements										W1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP)												
Fiscal Year		20	02			20	03		2004					20	05			200	06			200	07			20	08			200	9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	
Canopy Crazing																																
Corrosion Preventative Compounds																																
Corrosion Barriers Tapes and Films I	3																															
ligh Value Return on Investment																																
Arc Fault Circuit Breaker																																
Processor Maintainability Program																																
Smart Wire																																
AN/ASH-37(V) Structural Data Reco	ording	Set (S	DRS)																													
																																Ļ
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												R-1																				

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail	DATE:								
	February 2004								
APPROPRIATION/BUDGET ACTIVITY	PRIATION/BUDGET ACTIVITY PROGRAM ELEMENT PROJECT N								
RDT&E, N / BA-4	0205633N, Av	iation Improve	ments		W1041, Aircraft Equipment Reliability/Maintainability Improvement Program (AERN				
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Canopy Crazing	Q1-Q4	Q1-Q4							
Corrosion Preventative Compounds	Q1-Q4								
Corrosion Barriers Tapes and Films		Q1-Q4	Q1-Q4	Q1-Q4					
High Value Return on Investment	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	
Arc Fault Circuit Breaker		Q1-Q4	Q1-Q4						
Processor Maintainability Program			Q1-Q4	Q1-Q4	Q1-Q4				
Smart Wire				Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	
AN/ASH-37(V) Structural Data Recording Set (SDRS)			Q1-Q4	Q1-Q4	Q1-Q4				
								 	
			1		1		1		
			1		1		1		
			 		†		 	 	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE:								
-	February 2004								
APPROPRIATION/BUDGET ACTIVITY	BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME								
RDT&E, N / BA-7	0205633N Aviation	Improvements			W1355 Aircraft Engine Component Improvement Program				
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Project Cost		28.385	48.473	52.436	56.134	54.357	49.471	49.248	
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical design and development engineering support to resolve safety, reliability and maintainability deficiencies of in-service Navy aircraft propulsion systems. The highest priority issues CIP addresses concern safety-of-flight deficiencies which account for approximately 80% of CIP efforts. The program also corrects service-revealed deficiencies, improves Operational Readiness (OR) and Reliability and Maintainability (R&M), and reduces platform Life Cycle Cost (LCC). Budgets are allocated across platform-specific teams and multi-platform product support teams based upon long term strategies to achieve safety and affordable readiness goals; the R-3 exhibit details annual portions of those long-term plans. CIP tasks have reduced the rate of in-flight aborts, safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance work hours, and overall cost of ownership. This is accomplished through the maintenance and validation of specification performance, testing to qualify engineering changes, verifying life limits, and improving the inherent reliability of the propulsion system as an integral part of Reliability Centered Maintenance (RCM) initiatives. Historically, the missions, tactics, and environmental exposure of military aircraft systems change to meet new threats or operational demands, and often result in unforeseen problems, which if not corrected, can cause critical safety/readiness degradation, such as those experienced during DESERT SHIELD/DESERT STORM operations due to sand erosion. In addition, new problems arise through actual use during deployment of the aircraft. Development programs, while geared to resolve as many problems as possible before deployment, cannot duplicate actual operations or account for the vast array of environmental and usage variables, particularly when aircraft missions vary from those the aircraft was designed to perform. Therefore, it has been found that

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0205633N Aviation Improvements	W1355 Aircraft Engine Component Improvmement Program

B. Accomplishments/Planned Program

Platform-Specific Efforts:

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.957	2.228	9.095
RDT&E Articles Quantity			

T56 Engine (P-3, E-2, C-2, C-130)

Implement the Engine Monitory System version 7.0 upgrade. Maintain safety margins by investigating turbine coatings and develop new designs, propeller integration efforts with potential propeller designs, perform engine hot section corrosion and fatigue analysis, and bearing improvements. Analysis of redesign for first stage turbine blades on T56-A-427 engines. Qualification and verification testing of redesigned first stage turbine blades. Resolve service revealed problem. Work on resolving fuel nozzle choking issue. Resolve design problems in the areas of safety coupling, compressor leakage, generator problems, and electrical wiring problems. Mission updates and life analysis of critical components.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.127	0.743	0.440
RDT&E Articles Quantity			

E-2/C-2/C-130

Incorporate improved blade heaters. Develop improved propeller control system.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.756	1.152	0.879
RDT&E Articles Quantity			

S-3

High Pressure Compressor (HPC) life limit implementation. Validation and implementation of High Pressure Turbine (HPT), Low Pressure Turbine (LPT), and Fan critical part life limit changes. Develop Combustion Chamber Frame (CCF) and HPT physics based thermal models. Develop LPT physics based thermal models. Collect engine parameter flight data required to perform updated engine mission analysis. Initiate the development of improved Eddy Current (EC) inspection techniques for small holes and specific features. Analyze and correlate HPC EC inspection requirements to critical part Fracture Mechanics (FM) capabilities. Investigate propulsion and power system obsolescence. Conduct engine component and propulsion and power electrical system reliability/maintainability analysis. Conduct commercial critical part hardware commonality analysis.

R-1 SHOPPING LIST - Item No.

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EXHIBIT R-2a, RDT&E Project Justification	n	DATE:	
		February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0205633N Aviation Improvements	W1355 Aircraft Engine Component Improvement Program	

B. Accomplishments/Planned Program

Platform-Specific Efforts:

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.331	2.254	6.658
RDT&E Articles Quantity			

Mature Aircraft

Address the top readiness degraders and AVDLR costs; implement efforts on the J52 engine (EA-6B) ASMET test, perform annual maintenance awareness brief and annual P-408A major engine inspection program. Study and implement solutions to aging aircraft issues and future obsolescence problems. Redesign of diffuser case for increased life. Design and analysis efforts on 4.5 bearing problem on J52 engine (EA-6B). Efforts on life analysis and mission verification for critical components. Evaluate new coatings and seals for turbine areas. Begin ASMET of Pratt Wittney Associates.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.613	0.524	2.096
RDT&E Articles Quantity			

H-2/H-60

Advanced Helicopter Transmission Lubricant Program, extended transmission component lives, increased readiness by reducing corrosion, Mission Profile Data Collection and Dynamic Component Life Limit efforts. Time on wing and Mean Time Between Removals (MTBR) cost drivers initiatives including compressor durability, Titanium Nitrates (TiN) coating and three-stage turbine. Efforts in the area of engine power loss, secondary power and wiring issues.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.842	6.030	3.728
RDT&E Articles Quantity			

AV-8B

Address top readiness degraders and AVDLR costs; safety of flight issues, engine removal and mission failure drivers, assess life management program issues for engine components. Project included but not be limited to: ASMET testing, support of a Fleet Leader Program, Analytical Condition Insepction (ACI), Engine Life Management Program (ELMP) execution and design fixes for any service revealed deficiencies. LPC 1 vane cracking problems and FMU mod problems. Analysis of ASMET engine test.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	ion	DATE:	
		February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0205633N Aviation Improvements	W1355 Aircraft Engine Component Improvement Prog	gram
B. Assemblishments/Blanned Brearen			

B. Accomplishments/Planned Program

Platform-Specific Efforts:

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.632	3.511	9.799
RDT&E Articles Quantity			

H-53/H-46/H-3

Bleed valve redesign. Efforts on the top cause for engine removals; improv on wing times; addressed top safety concerns as ranked by the Operational Advisory Group (OAG); reliability-centered maintenance program; improv compressor blade retention design; and develop corrosion resistant bearing designs. Improve the mean time between engine removal based upon continued implementation of reliability center maintenance initiatives. Conduct life management analysis to resolve critical rotating component issues based upon engine structural interity assessments and the master life management plan.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.893	2.411	2.346
RDT&E Articles Quantity			

H-1

Address top safety concerns as ranked by the OAG and System Safety Working Group, continue to update Navy maintenance manuals, continue to improve time-between-overhaul and reduced impact of high-time parts (T700 and T400); addressed Blisk, Rear Shaft, Spacer & Tierod Life Update (T700), development of environmentally friendly repairs such as High Velocity OXY fuel coatings to replace chrome and nickel plate repairs; and development of Durability Project (T700-401/-401C), N5 Blades w/ tip cap & Nozzles, T700 TiN Coating (Test Articles, Corrosion/Frosion/Full Sand Engine Testing), T700 Diagnostics Life Mgt Performance Evaluation (IMD), T700 Diagnostics (Performance Evaluation), Durability Project (T700-401/-401C), T700 TiN Coating (Pending Pass/Fail... Incorp TiN), EPAMs Mission Update to 4BN, T700 Diagnostics (Performance Evaluation), T400 Improved Compressor Turbine Stub Shaft, T400 Improved Gas Generator Case Diffuser Inlet, T400 Improved Compressor Coating, T400 Life Management, Study T400 Parts Obsolescence.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.251	0.631	0.598
RDT&E Articles Quantity			

F-14B/D

Address obsolescence of electrical components. High pressure turbine redesign efforts. Address extension of component life and the reduction of maintenance hours. Improvements to propulsion system safety through an active life management program for critical rotating components. Efforts to reduce the engine non-recoverable in-flight shutdown Rate and propulsion system related mission abort rate.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:		
			February 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDT&E, N / BA-7	0205633N Aviation Improvements	W1355 Aircraft Engine Component Improvement Program			
RDI&E, N / BA-7	0205633N Aviation Improvements	W1355 Aircraft Engine Com	ponent Improvement Program		

B. Accomplishments/Planned Program

Platform-Specific Efforts:

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		10.964	9.083
RDT&E Articles Quantity			

F-18 C/D/E/F

Address top safety issues, readiness degraders, and AVDLR costs; safety of flight issues; engine removal and mission failure drivers; assess life management program issues for engine components. Analysis and redesign of fuel nozzles and control system to resolve sub idle flameout issues. Analysis of combustion linear to determine cause for durability problems. Analysis and redesign of components with service revealed deficiencies.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.541	3.027	1.220
RDT&E Articles Quantity			

T-45

Address top safety issues reported from fleet. Analysis and redesign components with service revealed deficiencies.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	15.442	14.998	6.494
RDT&E Articles Quantity			

Multi-Platform Product Support Teams

Projects designed to provide common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants, and refueling equipment; improve blade and vane repair processes and life cycle support; and improve electrical system product support, wiring, and battery systems.

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EXHIBIT R-2a, RDT&E Project Justification		DATE:					
					February 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AN	ND NAME			
RDT&E, N / BA-7	0205633N Aviation Improvements		W1355 Aircraft Engine (Component Improvement Prog	ram		
C. PROGRAM CHANGE SUMMARY:							
Funding:	FY 2003	FY 2004	FY 2005				
Previous President's Budget	29.367	49.018					
Current BES/President's Budget	28.385	48.473					
Total Adjustments	-0.982	-0.545					
Summary of Adjustments							
Congressional program reductions							
Congressional undistributed reductions	5	-0.545					
Congressional rescissions							
SBIR/STTR Transfer	-0.442						
Economic Assumptions			-0.097				
Reprogrammings	-0.540						
Other Adjustments			9.230				
Subtotal	-0.982	-0.545	9.133				
Schedule: Not applicable							
Technical: Not Applicable							
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EXHIBIT R-2a, RDT&E Pr	oject Justification		DATE:	
				February 2004
APPROPRIATION/BUDGET AC		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N /	BA-7	0205633N Aviation Improvements	W1355 Aircraft Engine Component Improvem	ent Program
D. OTHER PROGRAM				
PE 0603236N (Turbine PE 0602114N (UAV Pro	Engine CIP Army)			
E. ACQUISITION STRATE	GY:			
Not applicable				
F. MAJOR PERFORMERS	:			

Exhibit R-3 Cost Analysis (page 1)								Date:				•
<i>y</i> 11 y /									February 2004			
RDT&E, N /	BA-7	0205633N Avia	ation Improv	ements		W1355 Air	craft Engine	ne Component Improvement Program				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Systems Eng F110 Engine Program*	SS/CPAF	GE- OHIO	16.986	0.251	12/02	0.631	12/03	0.598	12/04		18.466	18.466
Systems Eng F402 Engine Program	SS/CPFF	ROLLS ROYCE - UK	25.222	1.842	12/02	6.030	12/03	3.728	12/04		36.822	36.822
Systems Eng F404/T58/T64 Engine Program	SS/CPFF	GE - MASS	32.199	1.632	12/02	3.511	12/03	9.799	10/04		47.141	47.141
Systems Eng J52 Engine Program	SS/CPFF	P&W - FLORIDA	11.506	2.037	12/02	1.503	12/03	5.849	12/04		20.895	20.895
Systems Eng T56 Engine Program	SS/CPFF	INDIANA	7.653	1.957	02/03	2.228	02/04	9.095	02/05		20.933	20.933
Systems Eng F405 Engine Program	SS/CPAF	ROLLS ROYCE - UK	6.692	1.541	01/03	3.027	12/03	1.220	12/04		12.480	12.480
Systems Eng F/A 18E/F Engine Program	SS/CPFF	GE - MASS	0.664			10.964	12/03	9.083	12/04		20.711	20.711
Systems Eng T700 Engine Program	SS/CPFF	GE - MASS	5.841	1.226	01/03	1.048	01/04	4.192	01/05		12.307	12.307
Systems Eng TF34 Engine Program	SS/CPFF	GE - MASS	5.657	0.756	11/02	1.152	11/03	0.879	11/04		8.444	8.444
Systems Eng V22 Engine Program	SS/CPFF	ROLLS ROYCE - INDIANA	1.000								1.000	1.000
Systems Eng T400 Engine Program	SS/CPFF	P&W - FLORIDA		0.280		1.887	11/03	0.250	12/04		2.417	2.417
Systems Eng J85 Engine Program	SS/CPFF	GE - OK		0.294		0.751	12/03	0.809	11/04		1.854	1.854
Systems Eng Props Program	SS/CPFF	HAM SUNSTRAND - CONN	5.550	1.127	12/02	0.743	12/03	0.440	12/04		7.860	
Systems Eng Contracts under 1.0M	VARIOUS	VARIOUS	12.966	1.171	10/02	1.645	10/03	1.036	10/04	Continuing	Continuing	
Systems Eng Lab Field Activity (1.0 or more)	WX	NAWCAD-PAX	110.118	12.091	10/02	11.265	10/03	4.195	10/04	Continuing	Continuing	
Systems Eng Other In-House Support (1.0M or less)	VARIOUS	VARIOUS	15.330	0.820	10/02	1.150	10/03	0.310	10/04	Continuing	Continuing	
GFE-GFP Fuel Increment	MILSTRIP	DES/DLA	4.355	0.000		0.351	10/03	0.487	10/04	Continuing	Continuing	
Award Fees**	SS/CPAF		1.060	0.439							1.499	1.499
												
												
Cultivated Decision Decision was and			000 700	07.404		47.000		F4 070		Ozationi i	Cantinuis	
Subtotal Product Development		<u> </u>	262.799	27.464		47.886	1	51.970		Continuing	Continuing	L

Remarks:

- * F110 (F14 B/D) AF contract has a ten year period of performance.
- ** Award fees F402 (.205), F402 (.234).

CLASSIFICATION:

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Exhibit D. 2 Coot Analysis	o (nogo 2)								DATE		- Christin (2004	
Exhibit R-3 Cost Analysis APPROPRIATION/BUDGET			DBOCBA	M EI EMENI	-		DDO IECT	February 2004					
RDT&E, N /	BA-7							PROJECT NUMBER AND NAME W1355 Aircraft Engine Component Improvement Program					
		Dorformina		Total	provements	FY 03		FY 04		FY 05	nent Program	n I	1
Cost Categories	Method & Type	Performing Activity & Location)		FY 03 Cost	Award Date	FY 04	Award Date	FY 05	Award Date	Cost to Complete	Total	Target Value of Contract
Development Support	VARIOUS	VARIOUS		4.446			0.403		0.310		Continuing	Continuing	
Software Development	VAINIOUS	VAINIOUS		4.440	0.034	10/02	0.403	10/03	0.510	10/04	Continuing	Continuing	
Integrated Logistics Support													
Configuration Management													
Technical Data													
Studies & Analyses											+		
GFE													
Award Fees													
7.Wai a 1 000													
Subtotal Support				4.446	0.634		0.403		0.310		Continuing	Continuing	
Remarks:													

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	ge 3)										February 2	2004	
APPROPRIATION/BUDGET ACTIV	ITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT N	NUMBER AN	Ĺ					
RDT&E, N /	BA-7		0205633N	Aviation Im	provements	S	W1355 Air	craft Engin	e Compone	nt Improve	ment Program	า	
Cost Categories	Contract	Performing	•	Total		FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date		Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	VARIOUS	VARIOUS		2.694	0.146	10/02	0.067	10/03	0.053	10/04	Continuing	Continuing	
Operational Test & Evaluation													
Live Fire Test & Evaluation													
Test Assets													
Tooling													
GFE													
Award Fees													
Subtotal T&E				2.694	0.146	6	0.067		0.053	3	Continuing	Continuing	
Contractor Engineering Support													
Government Engineering Support													
Program Management Support	VARIOUS	VARIOUS		1.023	0.098	10/02	0.067	10/03	0.053	10/04	Continuing	Continuing	
Travel					0.043	10/02	0.050	10/03	0.050	10/04	Continuing	Continuing	
Transportation													
SBIR Assessment													
Subtotal Management				1.023	0.141		0.117		0.103	3	Continuing	Continuing	
Remarks:													
Total Cost				270.962	28.385	i	48.473		52.436	8	Continuing	Continuing	
Remarks:													

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:							
							Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY									
RDT&E, N / BA-7	0205633N, Aviation Improvements W9109, Age Exploration Model								
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Project Cost			3.708						
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Aircraft Age Exploration Model for Naval Aircraft platforms. The model will use existing Naval Aircraft data to establish connections between age and reliability, maintainability, and readiness and will provide the Navy with a valuable tool for understanding, predicting, and communicating impacts of decisions to extend aircraft service lives and for mitigating risks associated with these decisions. This is a continuation of efforts initiatied in FY02 to add enhanced functionallity to include automatic identification of reliability degredation items and automatic tracking of actuals against model generated predictions.

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PROJECT NUMBER AND NAME
W9109, Age Exploration Model

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.308	
RDT&E Articles Quantity			

Software Development

Develop enhancements to computer model that integrates existing maintenance data with predictive computations to determine future reliability and maintianability conditions for aircraft and components. Enhancements include automated generation of reliability and maintainability opportunity triggers and also real time tracking of actual results against predictied performance.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.150	
RDT&E Articles Quantity			

Technical data and training materials

Develop technical data to include user manuals and other training materials. Conduct user training sessions as required for model validation.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.250	
RDT&E Articles Quantity			

Conduct model validation studies

Using a combination of historical and current maintenance data perform model verification and validation studies to demonstrate acceptable level of confidence in outputs produced by the model

CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND	NAME	
RDT&E, N / BA-7	0205633N, Aviation Improvements		W9109, Age Exploration N	Model	
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	0.000	0.000			
Current BES/President's Budget	0.000	3.708			
Total Adjustments	0.000	3.708			
Summary of Adjustments Congressional program reduce Congressional undistributed r Congressional rescissions SBIR/STTR Transfer Economic Assumtions Other Adjustments		-0.042			
Reprogrammings		0.750			
Congressional increases Subtotal	0.000	3.750 3.708			
Schedule:					
N/A					
Technical:					
N/A					
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E F	Project Justification							DATE:	Februa	ry 2004	
APPROPRIATION/BUDGET /	ACTIVITY	PROGRAM EI	EMENT NUM	BER AND NAM	1E	PROJECT NU	MBER AND N	AME	1 05.44	1 y 200 +	
RDT&E, N /	BA-7	0205633N, Av				W9109, Age E					
D. OTHER PROGRAM	I FUNDING SUMMARY:								То	Total	
Line Item No. & Nam	<u>ne</u>	<u>FY 2003</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost	
0205633N, Autom	it Equipment Reliability/Mainta ated Wire Analysis, W9426 IR Technology Commercializa		ram, W1041								
E. ACQUISITION STRA	TEGY:										
N/A											
F. MAJOR PERFORME	RS:										
N/A											

CLASSIFICATION:

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Exhibit R-3 Cost Analysis (DDOODAM	TI ENACNIT			DDO IEOT NI	MADED AND	ER AND NAME				
APPROPRIATION/BUDGET AC	IIVIIY		PROGRAM I										
RDT&E, N / BA-7	0	Danfanasia a	0205633N, A	viation Improver	ments	FY 03	W9109, Age E	FY 04	lodel	FY 05			
Cost Categories	Contract Method	Performing Activity &			FY 03	Award		Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location			Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	e , j p e			1000							- Compiler	0.00	
Ancillary Hardware Development												0.00	
Aircraft Integration												0.00	0
Ship Integration												0.00	0
Ship Suitability												0.00	0
Systems Engineering												0.00	0
Training Development												0.00	0
Licenses												0.00	0
Tooling												0.00	0
												0.00	0
GFE													.0
Award Fees												0.00	0
				0.000	0.000	D	0.000		0.0	000	0.0		
Award Fees Subtotal Product Development				0.000	0.000	0	0.000		0.0	000	0.0		
Award Fees Subtotal Product Development				0.000	0.000		0.000		0.0	000	0.0		0
Award Fees Subtotal Product Development Remarks:	gsa/ffp	Mantech, MD		0.000	0.000		2.958	02/04	0.0	000	0.0	0.00	0
Award Fees Subtotal Product Development Remarks: Development Support	gsa/ffp	Mantech, MD		0.000	0.000			02/04	0.0	000	0.0	0.00	0 2.95
Award Fees Subtotal Product Development Remarks: Development Support Software Development	gsa/ffp	Mantech, MD		0.000	0.000			02/04	0.0	000	0.0	0.00 0.00 0.00 2.95	0 0 8 2.95
Award Fees Subtotal Product Development Remarks: Development Support Software Development Integrated Logistics Support	gsa/ffp	Mantech, MD Mantech, MD		0.000	0.000			02/04	0.0	000	0.0	0.00 0.00 0.00 2.95 0.00	0 88 2.95 0 0
Award Fees Subtotal Product Development Remarks: Development Support Software Development Integrated Logistics Support Configuration Management				0.000	0.000		2.958		0.0	000	0.0	0.00 0.00 0.00 2.95 0.00 0.00	0 8 8 2.95 0 0 0 0
Award Fees Subtotal Product Development Remarks: Development Support Software Development Integrated Logistics Support Configuration Management Technical Data				0.000	0.000		2.958		0.0	000	0.0	0.00 0.00 0.00 2.95 0.00 0.00 0.15	0
Award Fees Subtotal Product Development Remarks: Development Support Software Development Integrated Logistics Support Configuration Management Technical Data Studies & Analyses	gsa/ffp	Mantech, MD		0.000	0.000		2.958	02/04	0.0	000	0.0	0.00 0.00 2.95 0.00 0.01 0.15	0

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)										February 200	4	
APPROPRIATION/BUDGET ACTIVI	TY		PROGRAM ELEMENT	•			PROJECT NU						
RDT&E, N / BA-7			0205633N, Aviation Im	provem	ents		W9109, Age E		odel	•			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date		Total Cost	Target Value of Contract
Developmental Test & Evaluation												0.000	
Operational Test & Evaluation												0.000	
Live Fire Test & Evaluation												0.000	
Test Assets												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal T&E				0.000	0.000		0.000		0.000)	0.000	0.000	
	_												
Contractor Engineering Support	gsa/ffp	Mantech, MD					0.250	02/04				0.250	0.250
Government Engineering Support	WX	NAWCAD					0.200	02/04				0.200	
Program Management Support	WX	NAWCAD					0.090	02/04				0.090	
Travel	WX	NAWCAD					0.010	02/04				0.010	
Transportation												0.000	
SBIR Assessment												0.000	
Subtotal Management				0.000	0.000		0.550		0.000)	0.000	0.550	
Remarks:													
Total Cost				0.000	0.000		3.708		0.000		0.000	3.708	
Remarks:													

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMI	ENT NUMBER AND	NAME		PROJECT NUMBE	ER AND NAME		
RDT&E, N / BA-7	0205633N, Aviation	n Improvements			W9426, Automate	d Wire Analysis		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			2.967					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Current practices have technicians perform electrical testing on aircraft using both manual and automated methods. Once a short or open is found using existing test equipment, the technician must then find the physical location of the fault, one wire at a time, using pin-to-pin tests with handheld multi-meters and visual inspection. This generally involves at least two individuals connecting leads to each end of a wire to be tested. This is a slow process and reactive in nature. New commercial technology that incorporates Standing Wave Reflectometry (SWR) can proactively identify all hard faults (e.g. shorts and opens) of wiring malfunctions from a single end wire test, verify system modifications, and localize aircraft wiring malfunctions to within inches. This capability does not exist in the U.S. Navy today. A single wiring analyzer can serially test up to 1,152 wires at a time and the system can be expanded to test up to a maximum of 128,000 test points. This effort is to develop, validate and qualify this capability for Naval Avaition applications.

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EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME
RDT&E, N / BA-7	0205633N, Aviation Improvements	W9426, Automated Wire An	alysis

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		1.767	
RDT&E Articles Quantity			

Software development

Develop the software required to utilize the new technology that incorporates Standing Wave Reflectometry (SWR) that can proactively identify all hard faults (e.g. shorts and opens) of wiring malfunctions from a single end wire test, verify system modifications, and localize aircraft wiring malfunctions to within inches.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.900	
RDT&E Articles Quantity			

In-Service validation testing

Testing to ensure that the product works in a true fleet environment. Aircraft to be studied are the EA-6B, C-2, S-3, E-6, H-46, and H-53.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.300	
RDT&E Articles Quantity			

Tech data and training materials

User training and the development of the materials required for training and after training reference.

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EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AN	D NAME	
RDT&E, N / BA-7	0205633N, Aviation Improvements		W9426, Automated Wire	Analysis	
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004			
Previous President's Budget:	0.000	0.000			
Current BES/President's Budget	0.000	2.967			
Total Adjustments	0.000	2.967	0.000		
Summary of Adjustments Congressional program reduction Congressional undistributed red	ons ductions	-0.033	ı		
Congressional rescissions SBIR/STTR Transfer OSD					
Other Adjustments Economic Assumtions					
Reprogrammings Congressional increases		3.000	1		
Subtotal	0.000	2.967			
Schedule:					
N/A					
Technical:					
N/A					
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EXHIBIT R-2a, RDT&E	Project Justification							DATE:			
		T				T			Februa	ry 2004	
APPROPRIATION/BUDGET				BER AND NAM	ИE	PROJECT NU					
RDT&E, N /	BA-7	0205633N, Av	iation Improve	ments		W9426, Auton	nated Wire An	alysis			
D. OTHER PROGRA	AM FUNDING SUMMARY:								То	Total	
Line Item No. & Na	<u>me</u>	<u>FY 2003</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost	
0205633N, Age I	aft Equipment Reliability/Maint Exploration Model, W9109 AIR Technology Commercializa		ram, W1041								
E. ACQUISITION STRA	ATEGY:										
N/A											
F. MAJOR PERFORM	ERS:										
N/A											

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										DATE:				
Exhibit R-3 Cost Ana	alysis (page 1)											February 20	04	
APPROPRIATION/BUD				PROGRAM E	LEMENT			PROJECT N	UMBER AND	NAME				
RDT&E, N /	BA-7			0205633N, A	viation Improve	ments		W9426, Auto		Analysis				
Cost Categories		tract I	Performing		Total		FY 03		FY 04		FY 05			
	Met & T		Activity & Location		PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Deve		уре і	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	0.000	
													0.000	
Ancillary Hardware Deve	eiopment												0.000	
Aircraft Integration Ship Integration													0.000	
Ship Suitability													0.000	
Systems Engineering													0.000	
Training Development													0.000	
Licenses													0.000	
		+											0.000	
Tooling GFE													0.000	
Award Fees													0.000	
Subtotal Product Develop	mont	+			0.000	0.00	2	0.000	2	0.0	00	0.000		
Development Support													0.00	0
Software Development	TBD) [Eclypse, CA		0.000)		1.767	7 03/04				1.76	7 1.767
Integrated Logistics Suppo	ort												0.00	0
Configuration Management	t												0.00	0
Technical Data	TBD) [Eclypse, CA		0.000			0.200	03/04				0.20	0.200
Studies & Analyses													0.00	0
GFE													0.00	0
Award Fees													0.00	0
Subtotal Support					0.000	0.00	0	1.967	7	0.0	00	0.000	1.96	7
Remarks:														

CLASSIFICATION:

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Exhibit R-3 Cost Analysis (pag	je 2)									February 200)4	
APPROPRIATION/BUDGET ACTIV	İTY		PROGRAM ELEMENT			PROJECT NU	MBER AND	NAME		•		
RDT&E, N / BA-7			0205633N, Aviation Improver	ments		W9426, Autom		nalysis				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	TBD	Eclypse, CA	0.000			0.400	03/04				0.400	0.400
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.00	00	0.400		0.00	00	0.000	0.400	
Contractor Engineering Support											0.000	
Government Engineering Support	WX	NAWCAD	0.000			0.450	03/04				0.450	
Program Management Support	WX	NAWCAD	0.000			0.150	03/04				0.150	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.00	00	0.600		0.00	00	0.000	0.600	
Remarks:												
Total Cost			0.000	0.00	00	2.967		0.00	00	0.000	2.967	
Remarks:												

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER ANI	D NAME		PROJECT NUMBE	ER AND NAME		
RDT&E, N / BA-7	0205633N Aviation	n Improvements			H9427 Digital Inte	egrated Cockpit D	isplay	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
,			0.989					
RDT&E Articles Qty			1					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The TH-57 Helicopter is the Navy's only primary helicopter pilot training platform, and is expected to remain in that capacity until 2025. All Navy fleet helicopters will have digital cockpits by 2012. To remain viable as a effective training platform, which meets the training requirements of an all digital helicopter fleet, the TH-57 cockpit can best utilize a digital design to effect greater aircraft training utilization. Research and Development funds will be utilized to produce a product that keeps pace with the rapidly changing fleet helicopter pilot training requirements and provides increased hard landing/crash and exceedence warning system protection to aircrews. The following areas will be explored Requirement Analysis, Cost Estimation, Crew Systems/Human System Integration, Logistics Support Analysis, and Aircraft Integration.

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CLASSIFICATION:

LEMENT NUMBER AND NAME ation Improvements FY 03	PROJECT NUMBER AND N H9427 Digital Integrated (FY 04 0.290		
ation Improvements	H9427 Digital Integrated (Cockpit Display	
	FY 04		
FY 03		FY 05	
FY 03		FY 05	
	0.290		
	1		
FY 03	FY 04	FY 05	
	0.699		
timation Craw Systems/Human System	Integration Logistics Support	Analysis and Aircraft Integration	
dination, crew Systems/Human System	integration, Logistics Support	analysis, and Ancian integration.	
FY 03	FY 04	FY 05	
		timation, Crew Systems/Human System Integration, Logistics Support A	timation, Crew Systems/Human System Integration, Logistics Support Analysis, and Aircraft Integration.

CLASSIFICATION:

						DATE:				
								February 20	04	
PROGRAM ELEME					JMBER AND I					
0205633N Aviation		nents		H9427 Digita		Cockpit Displa				
orming Total		E) / 00	FY 03	57/04	FY 04	E) / 05	FY 05			
ity & PY s tion Cost		FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
OM, Madison, MS	·	Cost	Date	0.355		Cost	Date	Complete	0.355	
JIVI, IVIAUISUTI, IVIS				0.333	03/04				0.000	
OM, Madison, MS				0.344	03/04				0.344	
JIVI, IVIAUISUTI, IVIS				0.344	03/04				0.000	
									0.000	1
OM, Madison, MS				0.290	03/04				0.290	
JIVI, IVIAUISUTI, IVIS				0.290	03/04				0.000	
									0.000	
									0.000	
									0.000	
									0.000	
	0.000	0.000		0.989		0.000		0.000		
									0.000)
									0.000)
									0.000)
									0.000)
									0.000	
									0.000)
									0.000)
									0.000	
	0.000	0.000)	0.000)	0.000)	0.000	0.000)
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									DATE:				
Exhibit R-3 Cost Analysis (pa	age 2)										February 200	04	
APPROPRIATION/BUDGET ACT	IVITY		PROGRAM EI	LEMENT			PROJECT NU	JMBER AND I	NAME				
RDT&E, N / BA-7			0205633N Avi	ation Improver	nents		H9427 Digita	al Integrated	Cockpit Displa	ау			
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											•	0.000	
Operational Test & Evaluation												0.000	
Live Fire Test & Evaluation												0.000	
Test Assets												0.000	
Tooling												0.000	
GFE												0.000	,
Award Fees												0.000	1
Subtotal T&E				0.000	0.000)	0.000		0.000)	0.000		
						_							
Contractor Engineering Support												0.000	ı
Government Engineering Support												0.000	,
Program Management Support												0.000	,
Travel												0.000	,
Transportation												0.000	,
SBIR Assessment												0.000	,
Subtotal Management				0.000	0.000	D	0.000)	0.000	D	0.000	0.000	,
Remarks:													
Total Cost				0.000	0.000		0.989)	0.000		0.000	0.989	
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedul	e Profile																								DATE							
EXTIBIT IV4, Octional	C I TOILL																								DATE		Fe	ebrua	ry 20	04		
APPROPRIATION/BUDGE	T ACTIV	ITY							PROC	GRAM	ELEM	ENT N	IUMBE	R AND	NAM	E					PROJ	ECT N	IUMBE	R ANI	D NAM	1E						
RDT&E, N /	BA-7	7							02056	33N A	viation	Impro	vemer	nts							H942	7 Digi	tal Inte	egrate	ed Cod	ckpit [Display	/				
Fiscal Year		20	002			20	003			20	04			200	05			2	2006			200	07			20	08			20	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones										мѕ в																						
Prototype Phase																																
Test & Evaluation Milestones																																
Integration Test											_																					
Production Milestones																																
Deliveries																																

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						ı	ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&BA-7	0205633N Avi	ation Improven	nents		H9427 Digita	I Integrated C	Cockpit Displa	y
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase			2Q-4Q	1Q				
Integration Testing			3Q-4Q					

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							Februa	ary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AN	D NAME		PROJECT NUMBI	ER AND NAME		
RDT&E, N / BA-7	0205633N, Aviatio	n Improvements			W9428, NAVAIR 7	Technology Comme	ercialization Initiativ	е
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost			1.483					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The NAVAIR Technology Commercialization Initiative is an effort to transition commercial technology for Naval Avaition Applications.

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EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N /BA-7	0205633N, Aviation Improvements	W9428, NAVAIR Technolog	y Commercialization Initiative

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.933	0.000
RDT&E Articles Quantity			

Technology Development Fund

Funding to be awarded for development and validation of new technologies. Funding decisions are to be based on the recommendations of the proposal review team which comprises experts from NAVAIR, Maryland Governor's Office and local industry coalition.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.400	
RDT&E Articles Quantity			

Technical Oversight

Spans the efforts from the investigations required to ensure the competence of the proposing companies (both technical and financial) through prototype demonstration and the planning for implementation of successfully demonstrated technology.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		0.150	
RDT&E Articles Quantity			

Programatic and Financial management

Efforts associated with the releasing of awards, receiving of deliverables, tracking of progress, and production of programatic status reports.

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EXHIBIT R-2a, RDT&E Project Justification				DATE:	
,					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AN	ID NAME	
RDT&E, N / BA-7	0205633N, Aviation Improvements		W9428, NAVAIR Techno	ology Commerciali	zation Initiative
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	0.000	0.000			
Current BES/President's Budget	0.000	1.483			
Total Adjustments	0.000	1.483	0.000		
Summary of Adjustments Congressional program reductions Congressional undistributed reductio	ns	-0.017			
Congressional rescissions SBIR/STTR Transfer OSD					
Other Adjustments Economic Assumtions					
Reprogrammings					
Congressional increases		1.500			
Subtotal	0.000	1.483	0.000		
Schedule:					
N/A					
Technical:					
N/A					
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EXHIBIT R-2a, RDT&E I	Project Justification							DATE:	Fahrus	2004	
APPROPRIATION/BUDGET	ACTIVITY	IPROGRAM F	EMENT NUM	BER AND NAM	1F	PROJECT NU	MBFR AND N	IAMF	rebrua	ry 2004	
RDT&E, N /	BA-7						echnology Commercialization Initiative				
	M FUNDING SUMMARY:	·						-	То	Total	
Line Item No. & Nan	<u>ne</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost	
0205633N, Age E	ft Equipment Reliability/Maintai xploration Model, W9109 nated Wire Analysis, W9426	inability Improvement Prog	am, W1041								
E. ACQUISITION STRA	TEGY:										
N/A											
F. MAJOR PERFORME	RS:										
N/A											

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								DATE:				
Exhibit R-3 Cost Analysis (page 1)							February 2004					
APPROPRIATION/BUDGET ACTIV	/ITY	PROGRA	M ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7		N, Aviation Improve	ments		W9428, NAV		gy Commercializ		ive			
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05		L	
	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	а туре	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000)
GFE											0.000)
Award Fees											0.000)
Subtotal Product Development			0.000	0.000)	0.000)	0.000)	0.00	0.000)
Development Support											0.000)
Software Development											0.000)
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	ss/ffp	Patuxent Partnership, MD	0.000)		1.333	02/04				1.333	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000)	1.333	3	0.000)	0.00	0 1.333	3
Remarks:												
			R-1 SHOE	PPING LIST	- Item No	179						

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Exhibit R-3 Cost Analysis (pag	e 2)										February 200	4	
APPROPRIATION/BUDGET ACTIVI	TY	I	PROGRAM ELI	EMENT			PROJECT NU						
RDT&E, N / BA-7			0205633N, Avia		nents		W9428, NAVAIR Technology Commercialization Initiative						
Cost Categories	Contract Method & Type	Performing Activity & Location	F		FY 03 Cost	FY 03 Award Date	FY 04	FY 04 Award Date	FY 05 Cost	FY 05 Award Date		Total Cost	Target Value of Contract
Developmental Test & Evaluation												0.000	
Operational Test & Evaluation												0.000	
Live Fire Test & Evaluation												0.000	
Test Assets												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal T&E				0.000	0.000		0.000		0.000		0.000	0.000	
Contractor Engineering Support												0.000	
Government Engineering Support												0.000	
Program Management Support	WX	NAWC-AD, Pax	River MD	0.000			0.150	02/04				0.150	
Travel												0.000	
Transportation												0.000	
SBIR Assessment												0.000	
Subtotal Management				0.000	0.000)	0.150		0.000		0.000	0.150	
Remarks:													
Total Cost				0.000	0.000		1.483		0.000		0.000	1.483	
Remarks:													

FY 2005 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2004 Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: Navy Science Assistance Program

PROJECT NUMBER: R0834 PROJECT TITLE: NAVY SCIENCE ASSISTANCE PROGRAM

COST: (Dollars in Thousands)

Project Number & Title	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
R0834 NA	VY SCIENCE	ASSISTANCE	PROGRAM				
	7,365	3,703	3,821	3 , 915	3,370	3,407	3 , 552
R2701 LA	SH Airship	Test Platfo	rm Support				
	1,621	0	0	0	0	0	0
R9111 LA	SH MCM/ISR						
	6,473	6,923	0	0	0	0	0
Totals	15,459	10,626	3,821	3,915	3 , 370	3,407	3 , 552

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Naval Fleet/Force Technology Innovation Office (NFFTIO) ensures that the Fleet/Force (F/F) helps shape the Department of the Navy (DoN) investment in Science and Technology (S&T), develops teaming relationships to rapidly demonstrate and transition technology, supports development of technology-based capability options for naval forces, and enables warfighting innovations based on technical and conceptual possibilities. This is accomplished through proactive connectivity and collaboration between DoN S&T and Joint, Navy, and Marine Corps commands worldwide. The program accomplishes this through several methods. It provides Science Advisors to Joint, Navy, and Marine Corps operational and strategic planning commands. In addition, NFFTIO facilitates and disseminates the Command Capability Issues (CCIs) provided by the F/F Commanders to the Director of Navy Test and Evaluation and Technology Requirements (OPNAV N091). NFFTIO also collaborates with the F/F to identify specific solutions to known operational capability needs and provides the means to develop and demonstrate prototype systems. The result is that NFFTIO provides insight into issues associated with Naval Warfighting Capabilities, thereby influencing long term S&T programs. The program also develops leaders among the civilian scientists and engineers in the Naval Research Enterprise (NRE). Upon completion of their Science Advisor tours, the scientists and engineers return to the NRE with first hand knowledge of the F/F, warfighting issues, and strategic decision making. NFFTIO is unique in that it enables a continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

> R1 Line Item 180 Page 1 of 7

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: Navy Science Assistance Program

PROJECT NUMBER: R0834 PROJECT TITLE: NAVY SCIENCE ASSISTANCE PROGRAM

PROGRAM CHANGE SUMMARY:

	FY 2003	FY 2004	FY 2005
FY 2004-2005 President's Budget Submission	12,981	3,708	3,849
Cong. Rescissions/Adjustments/Undist.Reductions	0	-79	0
Congressional Actions	0	7,000	0
Execution Adjustments	2 , 695	0	0
Inflation Savings	0	0	-12
Manpower Adjustments	0	0	-6
Rate Adjustments	0	-3	-10
SBIR Assessment	-217	0	0
FY 2005 President's Budget Submission	15 , 459	10,626	3,821

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: Not applicable

Schedule: Not applicable

FY 2005 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2004 Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: Navy Science Assistance Program

PROJECT NUMBER: R0834 PROJECT TITLE: NAVY SCIENCE ASSISTANCE PROGRAM

COST: (Dollars in Thousands)

Project FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Number Actual Estimate Estimate Estimate Estimate Estimate

& Title

R0834 NAVY SCIENCE ASSISTANCE PROGRAM

7,365 3,703 3,821 3,915 3,370 3,407 3,552

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Naval Fleet/Force Technology Innovation Office (NFFTIO) ensures that the Fleet/Force (F/F) helps shape the Department of the Navy (DoN) investment in Science and Technology (S&T), develops teaming relationships to rapidly demonstrate and transition technology, supports development of technology-based capability options for naval forces, and enables warfighting innovations based on technical and conceptual possibilities. This is accomplished through proactive connectivity and collaboration between DoN S&T and Joint, Navy, and Marine Corps commands worldwide. The program accomplishes this through several methods. It provides Science Advisors to Joint, Navy, and Marine Corps operational and strategic planning commands. In addition, NFFTIO facilitates and disseminates Command Capability Issues (CCIs) provided by the F/F Commanders to the Director of Navy Test and Evaluation and Technology Requirements (OPNAV N091). NFFTIO also collaborates with the F/F to identify specific solutions to known operational capability needs and provides the means to develop and demonstrate prototype systems. The result is that NFFTIO provides insight into issues associated with Naval Warfighting Capabilities, thereby influencing long term S&T programs. The program also develops leaders among the civilian scientists and engineers in the Naval Research Enterprise (NRE) who, upon completion of their Science Advisor tours, return to the NRE with first hand knowledge of the F/F, warfighting issues, and strategic decision making. NFFTIO is unique in that it enables a continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

> R1 Line Item 180 Page 3 of 7

FY 2005 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: Navy Science Assistance Program

PROJECT NUMBER: R0834 PROJECT TITLE: NAVY SCIENCE ASSISTANCE PROGRAM

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2003	FY 2004	FY 2005
Naval Fleet/Force Technology Innovation Office	4,670	3,703	3,821

FY 2003 Accomplishments:

- Ensured that the Fleet/Force (F/F) helps shape the Department of the Navy (DoN) investment in Science and Technology (S&T).
- Developed teaming relationships to rapidly demonstrate and transition technology, supports development of technology-based capability options for naval forces.
- · Enabled warfighting innovations based on technical and conceptual possibilities.
- Accomplished proactive connectivity and collaboration between DoN S&T and Joint, Navy, and Marine Corps commands worldwide.
- · Provided Science Advisors to Joint, Navy, and Marine Corps operational and strategic planning commands.
- Collaborated with the F/F to identify specific solutions to known operational capability needs and provides the means to develop and demonstrate prototype systems.
- Provided insight into issues associated with Naval Warfighting capabilities, thereby influencing long term S&T programs.
- Developed leaders among the civilian scientists and engineers in the Naval Research Enterprise (NRE)-they return to the NRE with first hand knowledge of the F/F, warfighting issues, and strategic decision making.
- Enabled a continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

R1 Line Item 180 Page 4 of 7

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2004 Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: Navy Science Assistance Program

PROJECT NUMBER: R0834 PROJECT TITLE: NAVY SCIENCE ASSISTANCE PROGRAM

FY 2004 Plans:

Continue FY 03 efforts.

FY 2005 Plans:

Continue FY 04 efforts.

C. OTHER PROGRAM FUNDING SUMMARY:

RELATED RDT&E:

PE 0601152N In-House Laboratory Independent Research

PE 0601153N Defense Research Sciences

PE 0602114N Power Projection Applied Research

PE 0602123N Force Protection Applied Research

PE 0602131M Marine Corps Landing Force Technology

PE 0602235N Common Picture Applied Research

PE 0602236N Warfighter Sustainment Applied Research

PE 0602271N RF Systems Applied Research

PE 0602435N Ocean Warfighting Environment Applied Research

PE 0602747N Undersea Warfare Applied Research

PE 0602782N Mine and Expeditionary Warfare Applied Research

PE 0603114N Power Projection Advanced Technology

PE 0603123N Force Protection Advance Technology

PE 0603235N Common Picture Advanced Technology

PE 0603236N Warfighter Sustainment Advanced Technology

PE 0603271N RF Systems Advanced Technology

PE 0603640M USMC Advance Technology Demonstration (ATD)

PE 0603727N Joint Experimentation

PE 0603729N Warfighter Protection Advanced Technology

PE 0603747N Undersea Warfare Advanced Technology

PE 0603758N Navy Warfighting Experiments and Demonstrations

PE 0603782N Mine and Expeditionary Warfare Advanced Technology

D. ACOUISITION STRATEGY:

Not applicable.

R1 Line Item 180 Page 5 of 7

FY 2005 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: Navy Science Assistance Program

PROJECT NUMBER: Various PROJECT TITLE: Congressional Plus-Ups

CONGRESSIONAL PLUS-UPS:

R2701	FY 2003	FY 2004
LASH Airship Test Platform Support	1,621	0

- Developed a demonstration program using a subcontracted, commercial airship. The airship deployed from Elizabeth City, NC and St. Augustine, FL.
- Collected data to determine the value of an airship for Electro-Optical and Infrared(EO/IR) sensing. The LASH sensor has been used onboard the airship for whale monitoring, coral reef oceanography, and for deer surveys on government land.
- · Deployed the airship for force protection during the Marine Corps Marathon in Washington, DC.

R9111	FY 2003	FY 2004
LASH MCM/ISR	6 , 473	6 , 923

FY 03 Accomplishments:

Augmented the development of a hyperspectral based, airborne sensor for near shore minefield classification.

- · Incorporated improved Navigation/Stablilization system capabilities into the Pod/Sensor system.
- · Developed automatic detection algorithm supported by flight data.
- Participated in Exercise Millennium Challenge with the Navy's Very Shallow Water (VSW) Detachment to detect mines in the VSW and Surf Zone.
- Continued to be guided by metrics determined in concert with OPNAV, Navy acquisition, and Marine Corps Systems Command.
- Tested the new airborne sensor's effectiveness in detecting mines in the surf zone.

R1 Line Item 180 Page 6 of 7

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: Navy Science Assistance Program

PROJECT NUMBER: Various PROJECT TITLE: Congressional Plus-Ups

FY 04 Plan:

• Expand multispectral data collection in the surf zone to include adverse environments and continue to refine mine detection algorithms.

• Construct and deliver to the government a multispectral sensor for the detection of mines and obstacles in the surf zone.

R1 Line Item 180 Page 7 of 7

EXHIBIT R-2, RDT&E Bud	get Item Justif	ication			DATE:				
		T=========					February 200	4	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM E	,	,					
RDT&E, N /BA-7 Operational Sys Dev	1	0206313M N	iarine Corps	Communicat	ions Sys			Coot to	Total
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
CCCT (\$\psi \text{IT WIIIIOTIS)}	1 1 2003	1 1 2004	1 1 2000	1 1 2000	1 1 2007	1 1 2000	1 1 2003	Complete	riogram
Total PE Cost	197.524	247.179	268.638	219.349	221.868	108.399	89.479	Cont	Cont
C2270 Command Post Systems	39.487	9.064	10.727	12.308	9.932	8.792	9.248	Cont	Cont
C2272 Intelligence C2 Systems	24.129	17.759	32.294	27.668	20.964	17.441	15.566	Cont	Cont
C2273 Air Operations C2 Systems	62.275	94.832	99.834	81.526	105.786	31.135	19.923	Cont	Cont
C2274 Warfare Systems	8.142	12.965	8.136	5.437	4.527	4.222	4.608	Cont	Cont
C2275 Radio Systems	0.565	8.772	8.670	4.865	4.328	4.222	3.550	Cont	Cont
C2276 Communications Switching & Control Systems	2.773	6.449	3.803	4.663	3.913	4.039	3.430	Cont	Cont
C2277 System Engineering & Integration	8.918	8.762	7.960	9.567	8.744	9.030	9.204	Cont	Cont
C2278 Air Defense Weapons Systems	23.238	23.338	22.765	6.429	11.075	10.537	5.798	Cont	Cont
C2315 Training Devices/Simulators	7.277	12.278	4.863	8.267	5.634	4.284	4.443	Cont	Cont
C2510 MAGTF CSSE & SE	3.215	22.238	18.034	10.611	8.123	8.598	8.633	Cont	Cont
C3099 Radar Systems	0.000	20.141	51.552	48.008	38.842	6.099	5.076	Cont	Cont
C9273 Defense Emergency Response Fund (DERF)	10.640	0.149	0.000	0.000	0.000	0.000	0.000	Cont	Cont
C9276 Radar and Marine Corps Ship Maneuver	6.865	10.432	0.000	0.000	0.000	0.000	0.000	0.000	17.297
Quantity of RDT&E Articles									

Exhibit R-2, RDTE,N Budget Item Justification (Exhibit R-2, page 1 of 139)

EXHIBIT R-2, RDT&E Budget Item Justif	ication	DATE:	
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT (PE) NAME AND	NO.	
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication	ions Sys	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program element provides funding to develop the command and control (C2) support and information infrastructures for the Fleet Marine Force and supporting establishment. Doctrinally, the C2 support system and the information infrastructure form two parts of a triad of capabilities which permits command and control systems to be transformed into a complete operating system. The third element of the triad is command and control organization and is not covered in this program element. USMC command and control is divided into seven functional areas and one supporting functional area as follows: intelligence C2, fire support C2, air operations C2, radio systems C2, combat service support C2, warfare C2, radar systems C2, and C2 support (information processing and communications).

Within this program element, subprojects have been grouped by C2 functional area for more efficient planning. Air defense weapons systems have been added to facilitate planning and a separate project is used for systems assigned to the supporting establishment. Subprojects which support the commander's decision processes have been collected into the Command Post Systems project since these systems must work in close cooperation to ensure effective C2 of Marine Air Ground Task Forces.

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

B. PROGRAM CHANGE SUMMARY

FY 2003	FY 2004	FY 2005
196.004	235.722	267.268
1.400	13.950	
3.794	-1.000	13.580
-3.674		
	-1.493	-12.210
197.524	247.179	268.638
	1.400 3.794 -3.674	1.400 13.950 3.794 -1.000 -3.674 -1.493

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.(U) Schedule: Not Applicable.(U) Technical: Not Applicable.

Exhibit R-2, RDTE,N Budget Item Justification

EXHIBIT	R-2a, RDT&E Project	t Justificatio	n				DATE:		
								February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT N	JMBER AND	NAME		PROJECT N	UMBER AND	NAME	
RDT&E, N /BA-7 Operational Sys Dev	0206313M N	Marine Corps	Communica	tions Sys		C2270 Com	mand Post S	ystems	
								Cost to	Total
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program
Project Cost	39.487	9.064	10.727	12.308	9.932	8.792	9.248	Cont	Cont
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) Systems assigned to this project are to be used by commanders and their staffs to process, fuse, and tailor information to assist decision-making and enhance situational awareness. They will integrate and share information from sources both internal and external to the Marine Air-Ground Task Force (MAGTF) to provide a shared understanding of the battlespace. Maneuver C2 is the executive layer of decision support that retrieves and fuses information from functional areas. It provides an integrated representation of the battlespace or a specific area of concern. The subprojects below develop systems that report unit status and location to the Tactical Combat Operations (TCO) System, and disseminate maneuver information throughout the battlespace.
- 1. MAGTF Software Baseline (MSBL). MAGTF Software Baseline (MSBL) is an evolutionary software acquisition program that provides common software functionality to enhance and improve the capability and interoperability between multiple Marine Corps MAGTF C4ISR systems. The common software functionality provides the warfighter situational awareness and allows the Commander to successfully operate in a joint/combined environment. This common software functionality is accomplished through two separate but interrelated baselines software development efforts. The Common Operating Environment (COE) Unix baseline, which supports Unix based server systems and the Command and Control Personal Computer (C2PC) baseline which supports Windows based tactical workstations/systems used at the company and above levels. A "light" version of C2PC is being developed for tactical workstations/systems used at the platoon and below level.
- 2. The Tactical Command Operations (TCO) will provide systems to the command post which support Maneuver C2. Maneuver C2 is the executive layer of decision support that pulls and fuses information from other functional areas.
- 3. The Intelligence Analysis System (IAS) supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence; it ensures that tactical intelligence is tailored to meet specific mission requirements. A Marine Expeditionary Force (MEF) IAS variant will also process signal intelligence. Funding for this program has moved to Project C2272 within this Program Element (PE).
- 4. Advanced Field Artillery Tactical Data System (AFATDS) will consist of fire support command and control software fielded on Marine Corps common hardware. AFATDS will provide the MAGTF with an automated ability to rapidly integrate all supporting arm assets into maneuver plans.
- 5. The Unit Operations Center (UOC) development efforts focus on: Cognitive Task Analysis (CTA); enhanced ergonomic physical design; evaluation of advanced multimedia hardware; integration and networking with advanced development communication systems; and battlefield visualization concepts. Unit Operations Center (UOC) will provide a facility and components for the integration of current and planned battlefield automation systems. UOC is a "system of systems" designed to optimize the positioning, interaction, and flow of information among the various staff agencies (G-2, G-3, Operations Directorate, etc) and their automated information systems and between higher, adjacent or subordinate units or headquarters. The Marine Corps deploys Component/Joint Task Force (JTF/Marine Air Ground Task Force (MAGTF) command elements throughout the world to fulfill operational requirements, often in joint/combined forces arenas. The UOC is designed in garrison and tactical versions. The tactical version is called the Combat Operations Center (COC), which is an outgrowth of the integrated COC (ICOC), COC-Interim (COC(I)), and the Enhanced COC (ECOC) developments over the last two years.
- 6. GCCS Integrated Imagery and Intelligence (GCCS-I³) is a joint program that is designed to enhance the operational commanders' situation awareness and track management through the use of a standard set of integrated, linked tools, and services that maximize commonality and interoperability across the tactical, theater, and national communities. GCCS-I³ operates in joint and service specific battlespace and is interoperable, transportable, and compliant with the DoD mandated Common Operating Environment (COE).

EXHIBIT R-2a, R	DT&E Project Justification		DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT N	IUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2270 Com	mand Post Systems

- 7. The Data Automated Communications Terminal (DACT) will extend situational awareness to echelons below the battalion level within the Marine Corps. The DACT will receive, store, retrieve, create, modify, transmit and display map overlays, operational messages/reports, and position information via tactical radios, networks, and/or wire lines. A phased approach for full functionality fielding consists of harware/software upgrades and enhancements that allow interoperability with other C4I systems.
- 8. Marine Corps Training, Exercise, and Employment Plan (MCTEEP) is a Windows-based, Marine Corps developed scheduling tool, identified in the Commandant's Planning Guidance (CPG) to standardize the "TEEP" process. MCTEEP software was first fielded in July 1995 to every G-3/S-3 in the operating forces. Funding for this program has moved to Project C2906 within this PE in FY04 and beyond.
- 9. Single Integrated Air Picture (SIAP) is the product of fused, common, continual, coherent, unambiguous tracks of airborne objects of interest withing the surveillance area. The SIAP Systems Engineer Task Force is an ad hoc Joint effort to investigate, research and produce the most common effective means for producing a SIAP. Funding for this program has been moved to Project C2273 in FY04 and beyond.
- 10. Target Location Designation and Hand-Off System (TLDHS) Provides fire support observers/controllers (OCs) with the abiilty to: observe their area of interest, quickly and accurately locate ground targets, and digitally request and coordinate target engagements by field artillery (FA), close air support (CAS), and naval surface fire support (NSFS). TLDHS will also provide the capability to designate targets for laser-guided munitions and laser spot trackers. TLDHS is comprised of and integrates two major subsystems: the Targeting Subsystem and the Target Hand-Off Subsystem. USMC MS III for TLDHS was 2Q03.

(U) B. ACCOMPLISHMENTS/ PLANNED PROGRAM:

(c) B. Accom Elementer Lames I Rockam.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.005	0.160	0.254
RDT&E Articles Qty			
TCO: Program management and engineering supp	oort.	•	•
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.058	0.180	0.244
RDT&E Articles Qty			
TCO: Server testing and integration to develop ad	ditional functional capabilities.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.125	0.215
RDT&E Articles Qty			
TCO: Integrate software changes into new system	and perform testing.	<u>.</u>	<u>.</u>
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.373	0.337
RDT&E Articles Qty			
TCO: Testing and validations of advanced concep	ts and technologies.	·	·
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.327	0.000	0.000
RDT&E Articles Qty			
IAS MOD: Critical improvements to GCCS-I3 Intel	ligence Support software for USMC	requirements.	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.130	0.000	0.000
RDT&E Articles Qty			
IAS MOD: Software modifications to support USM	C joint interoperability.		

EXHIBIT	R-2a, RDT&E Project Justification		DATE:	
				ebruary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AI		PROJECT NUMBER AND N	
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Commun		C2270 Command Post Sys	tems
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.474	0.000	0.000	
RDT&E Articles Qty				
IAS MOD: Performed IOS Client Hardwa	re Trade Study.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	1.247	1.200	1.300	
RDT&E Articles Qty				
MAGTF C4I BASELINE: Build, test, field	and support COE compliant versions of GCC	S-J in support of the six V	Varfighting functions. This effort	
focuses primarily on the integration, inclusion ar	nd incorporation of Fire Support, Maneuver an	d Intel capabilities.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.466	0.525	0.622	
RDT&E Articles Qty				
MAGTF C4I BASELINE: Program Manag	nement Support			
		FV 2004	EV 2005	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 0.365	FY 2004 0.390	FY 2005 0.390	
	0.365	0.390	0.390	
RDT&E Articles Qty			and a salvaia affanta	
<u>'</u>	ined risk management, requirements tracking		•	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	3.147	2.916	1.941	
RDT&E Articles Qty				
MAGTF C4I BASELINE: Development or	f MSBL Client in MS Windows environment (C	C2PC).		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.408	0.900	1.200	
RDT&E Articles Qty				
	f client for foot mobile Marines in Windows CE	environment per user re	quested improvements.	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.029	0.000	0.000	
RDT&E Articles Qty	0.023	0.000	0.000	
	of AFATDS V6.3.2 software. Developed incre	eased interoperability with	all other MAGTF C4I automated	systems Incre
software effectiveness with, and in support of M		sacca interoperability with	a. c. c. w. c. i	0,0001110. 111011
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	1.612	0.000	0.000	

AFATDS: Developed AFATDS V7 software. Simplified human factors interface to allow easier initial and sustainment training. Increased functionality with Marine Corps fire support systems (including Towed Artillery Digitization.) Enhanced air mission processing capabilities of system. Further enhanced human factors interface to provide simple and familiar view to users. Developed better interface with GDU on M198.

EXHIBIT		DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER A	ND NAME	PROJECT NUMBER AND NAME	ii y 200	
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Commu		C2270 Command Post Systems		
, ,	·				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.925	0.000	0.000		
RDT&E Articles Qty					
AFATDS: Field Integration Team (FIT) tes	sting, software development, and FMF intero	perability support.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.153	0.558	0.203		
RDT&E Articles Qty					
AFATDS Program management and engi					
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.220	0.000	0.000		
RDT&E Articles Qty					
AFATDS: MCTSAA tested new SW and S	SOST.		<u>.</u>		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.950		
RDT&E Articles Qty					
AFATDS: Development of improved inter	operability with USMC and Joint systems.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.000	1.512		
RDT&E Articles Qty					
AFATDS: Development of AV7.x software	e. Increased functionality, interoperability, ar	d ease of use. Better inte	rface with USMC and USN systems.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	1.420	0.043	0.000		
RDT&E Articles Qty					
GCCS-I3: Operational system developme	ent.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	7.889	0.000	0.000		
RDT&E Articles Qty					
•	velopment effort included design of production	n representative modules			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.425	0.000	0.000		
RDT&E Articles Qty					
UOC: Operational Testing.	<u> </u>				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	1.625	0.000	0.000		
RDT&E Articles Qty					

EXHIBIT	EXHIBIT R-2a, RDT&E Project Justification				
	-			February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER A	ND NAME	PROJECT NUMBER A	ND NAME	
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Commu	inications Sys	C2270 Command Post Systems		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.592		
RDT&E Articles Qty					
DACT: DACT Security Accredidation, De					
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.020	0.100		
RDT&E Articles Qty					
DACT: DACT FMF test support.	-	•	•		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.424	0.252	0.250		
RDT&E Articles Qty					
DACT: DACT Program Management Sup		•	•		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.200	0.200	0.105		
RDT&E Articles Qty					
DACT: Prototype/Internal SAASM GPS de	evelopment.	•	•		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.587	0.000	0.000		
RDT&E Articles Qty					
DACT: Internal 188-220 modem developr	ment				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	1.500	0.689	0.300		
RDT&E Articles Qty					
DACT: Development, integration, testing :	and fielding of the Tank and DACT Vehicle M	lount.	•		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.239	0.372	0.212		
RDT&E Articles Qty					
DACT: Dismounted DACT Technology In		•	-		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.019	0.000		
RDT&E Articles Qty					
MCTEEP: Development, integration, test	ting and fielding of selected MCTEEP Softwa	re upgrades to enhance th	e capabilities of MCTEEP. T	he prospective S/	
modifications include: 1) incremental upgrades t					
capabilities to further facilitate rapid responses to	to complex information requests, 3) transition	from the current Sybase li	censed data-base managem	ent system (DBMS	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	1.538	0.000	0.000		
accomplishment/Enort Subtotal Cost					

EXHIBIT R-2a	, RDT&E Project	Justification					ATE:		
								February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E					PROJECT NU			
RDT&E, N /BA-7 Operational Sys Dev	0206313M M	arine Corps C	Communicat	ions Sys		C2270 Comm	and Post Sy	stems	
COST (\$ in Millions)		FY 2003		FY 2004		FY 2005			
Accomplishment/Effort Subtotal Cost		7.89	7	0.00	0	0.00	0		
RDT&E Articles Qty			_		-		-		
SIAP: Service System Engineering support to	SIAP SE TF. Fun	dina for this pr	ogram has b	een moved to	Proiect C2	273. PE 02063 [.]	13 in FY04 a	nd bevond.	
COST (\$ in Millions)		FY 20		FY 20		FY 20		,	
Accomplishment/Effort Subtotal Cost		6.17		0.14		0.00			
RDT&E Articles Qty									
TLDHS: Testing, development, and integratio	n support.					•			
(U) Total \$		<u>39.487</u>		<u>9.064</u>		<u>10.727</u>			
(U) PROJECT CHANGE SUMMARY:	FY 2003	FY 2004	FY 2005						
(U) FY 2004 President's Budget:	27.943	9.090	7.980						
(U) Adjustments from the President's Budget:									
(U) Congressional Program Reductions									
(U) Congressional/OSD Program Reductions									
(U) Congressional Increase									
(U) Congressional Rescissions									
(U) Minor Affordability Adjustment		-0.168	-0.740						
(U) Reprogrammings	11.871	0.142	3.487						
(U) SBIR/STTR Transfer	-0.327	0.112	3.107						
(U) FY 2005 President's Budget:	39.487	9.064	10.727						
CHANGE SUMMARY EXPLANATION:	25.107	3.00 .	10.7.27						
(U) Funding: See Above.									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									
(6)									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cos
PMC BLI# 463100 TCO	0.900	0.406	3.259	0.191	0.390		0.190	Continuing	Continuin
PMC BLI# 474900 IAS MOD	0.665	1.347	1.354	1.375	1.398		1.474	Continuing	Continuin
PMC BLI# 463100 AFATDS	1.164	0.674	0.173	4.221	8.128		3.305	Continuing	Continuir
PMC BLI# 463100 UOC	25.241	0.000	0.000	0.000	0.000		0.000	0.000	25.24
PMC BLI# 419000 UOC	0.000	29.010	35.933	30.109	54.471		112.784	Continuing	Continuin
PMC BLI# 463100 DACT	6.372	4.128	0.939	1.385	0.200		0.300	Continuing	Continuir
PMC BLI# 473300 TLDHS	9.062	28.235	0.000	0.000	0.000	0.000	0.000	0.000	37.29

R-1 SHOPPING LIST - Item No. 182

Exhibit R-2, RDTE,N Budget Item Justification (Exhibit R-2, page 8 of 139)

EXHIBIT R-2a	RDT&E Project Justification		DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT N	IUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2270 Com	mand Post Systems

(U) Related RDT&E:

- (U) PE 0301301L (Department of Defense Intelligence and Information Systems/Military Intelligence Integrated Data System/Integrated Data Base I and II) Defense.
- (U) Navy Tactical Flag Communication and Control System.

(U) D. ACQUISITION STRATEGY:

- (U) TCO: Contracting is via General Services Administration schedules with various vendors and is for software maintenance and COTS evaluation and integration. Performance base reviews are conducted quarterly by the PMO.
- (U) MSBL: Funds applied to Northrop Grumman Information Technology (NGIT), San Diego, CA for development of MSBL client in MS Windows environment and development of client for foot mobile Marines in Windows CEOSS environment. Funds applied to Titan Corporation, Dumfries, VA and NGIT, Stafford, VA under the CEOSS contract for program management and engineering support. Funds applied to MCR Federal for C2PC Life Cycle Cost Estimate development. Funds applied to SPAWAR, Charleston, SC for build, test, and support COE compliant versions of GCC-J in support of six Warfighting functions.
- (U) AFATDS: AFATDS is a Cost Plus Award Fee contract through Army CECOM, Ft. Monmouth, N. J. R&D efforts will be a combined effort between the software developer (Raytheon), the Army PM and the USMC of software enhancements for the next planned versions of AFATDS (V6.3.2 and V7).
- (U) DACT: The Program develops software and hardware for two operational domains. The mounted DACT is a Command Control Situational Awareness device that will be installed in various tactical vehicles at the battalion and below levels with a special vehicle mounting kit. The Dismounted DACT is a Command Control Situational Awareness hand-held device that will be fielded to echelons below company level.
- (U) MCTEEP: Competitively award a cost plus fixed fee contract in 4th Qtr 02. R&D component of this contract will be to enhance existing MCTEEP S/W version 4.0 or to further develop the capabilities of the MCTEEP variant, the M. C. Database Management Tool.
- (U) IAS: The IAS program uses existing Government contracts for hardware and software development and integration. The system is comprised primarily of Commercial Off-the-Shelf (COTS) and Government Off-The-Shelf (GOTS) equipment.
- (U) SIAP: Systems Engineering effort that will be utilized to reduce risk and increase interoperability for legacy and future C4ISR systems.
- (U) GCCS 13: The acquisition of components (software/hardware) for the GCCS I 3 initiative will maximize the use of existing COTS, GOTS, NDI, and GFE equipment. The GCCS I3 initiative will be accomplished in collaboration with Millennium Technologies Corporation and Computer Science Corportation. Maintenance support will be managed by MARCORLOGBASES and those contractors listed above. This strategy accomplishes several goals: procure and field equipment effectively and efficiently, reduce logistics support, and reduce operational maintenance support.
- (U) UOC: The UOC COC is a Competitively Awarded Contract (cost type) for design and FP production options.
- (U) TLDHS: The acquistion of components (software/hardware) for the TLDHS initiative wil maximize the use of existing COTS, GOTS, NDI and GFE. Software development is contracted via general services administration schedules.

EXHIBIT	R-2a, RDT&E Project Justification		DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT N	IUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2270 Com	mand Post Systems
115 1 a 2, 1175/11 operational by bot	102000 iiii iiiaiiii 00.po 00iiiiiaiiioatioiio 0y0	GILTO GOIII	mana i oot o jotomo

E. Major Performers:

TACTICAL COMBAT OPERATIONS (TCO)

- FY 03 SPAWAR, CHARLESTON, S.C. Provide funds to EMA, INC, Charleston, S.C. for Testing and Validation of Advanced Server Concepts. Dec 02.
- FY 04 SPAWAR, CHARLESTON, S.C. Provide funds to EMA, INC, Charleston, S.C. To develop additional functional capabilities, integrate software changes into new system, and perform testing. Dec 03.
- FY 05 SPAWAR, CHARLESTON, S.C. Provide funds to EMA, INC, Charleston, S.C. for Testing and Validation of new workstation concept, integrate software changes into new system, and perform testing. Dec 04.

MAGTF SOFTWARE BASELINE (MSBL)

- FY 03 NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), San Diego, CA. Software development: C2PC and C2PC Light. Feb 03. NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), Stafford, VA. Engineering support. Oct 02.
 SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR) Charleston, SC. Software integration, building, testing and fielding MSBL. Dec 02. TITAN CORPORATION, Dumfries, VA. Program Management Support. Oct 02. MCR FEDERAL, McClean, VA. Life Cycle Cost Estimate Development. May 02.
 JB MANAGEMENT, Eaton, NJ. Common Message Processor Development. Apr 02.
- FY 04 NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), San Diego, CA. Software development C2PC and C2PC Light. Estimated award date Dec 03. SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR) Charleston, SC. Software integration, building, testing and fielding MSBL. Estimated award Dec 04. NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), Stafford, VA. Engineering support. Oct 03. TITAN CORPORATION, Dumfries, VA. Program Management Support. Oct 03.
- FY 05 NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), San Diego, CA. Software development: C2PC and C2PC Light. Est award Dec 04.

 SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR) Charleston, SC. Software integration, building, testing and fielding MSBL. Est award Dec 04.

 TITAN CORPORATION, Dumfries, VA. Program Management Support. Est award Oct 04.

ADVANCED FIELD ARTITLEY TACTICAL DATA SYSTEM (AFATDS)

- FY 03 RAYTHEON, Fort Wayne IN. Develop and test software. Dec 02. MCOTEA, Quantico VA. Test V6.3.2 software. Award Dec 02. MCTSSA, Software testing. Award Mar 03.
- FY 04 RAYTHEON, Fort Wayne IN. Develop and test software. Dec 03. MCOTEA, Quantico VA. Test V6.3.2 software. Award Dec 03. MCTSSA, Software testing. Award Mar 04.
- FY 05 RAYTHEON, Fort Wayne IN. Develop and test software. Dec 04. MCOTEA, Quantico VA. Test V6.3.2 software. Award Dec 04. MCTSSA, Software testing. Award Mar 05.

EXHIBIT R-2a,	RDT&E Project Justification		DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT N	IUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2270 Com	mand Post Systems

DATA AUTOMATED COMMERCIAL TERMINAL (DACT)

FY 03 RAYTHEON, Fort Wayne, IN, Develop and test Tank Vehicle Mount, Oct 02.

 $NORTHROP\ GRUMMAN\ INFORMATION\ TECHNOLOGY\ (NGIT),\ Stafford,\ VA.\ \ Program\ support.\ \ Oct\ 02.$

RAYTHEON (via Army CECOM) Ft. Monmouth, NJ. Modem integration. Jan 03.

FY 04 NORTHROP GRUMMAN, San Diego, CA. Sotfware Development, Jan 03.

NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), Stafford, VA. Program Support. Oct 03.

GENERAL DYNAMICS (via Army CECOM), Wireless communication, Feb 04.

COMTECH, Germantown, MD. Over the horizon communication, Mar 04.

DATA AUTOMATED COMMERCIAL TERMINAL (DACT) CONT

FY 05 NORTHROP GRUMMAN, San Diego, CA. Software Development, Jan 04.

NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), Stafford, VA. Program Support. Oct 04.

MARINE CORPS TRAINING EXERCISE EMPLOYMENT PLAN (MCTEEP)

FY 03 STANLEY ASSOCIATES, INC., Woodbridge, VA. Development, integration, testing and fielding of selected MCTEEP Software upgrades to enhance the capabilities of MCTEEP. Nov 02.

INTELLIGENCE ANALYSIS SYSTEM (IAS)

FY 03 NSWC, CRANE,IN. Critical Improvements to GCCS I3 software for program requirements and software mods. SPAWAR SSCC, Charleston, VA., Joint Interoperability, perform IOS Client and Server Trade Study.

GLOBAL COMMAND CONTROL SYSTEM (GCCS 13)

FY 03 MTC SERVICES CORPORATION, Stafford, VA. Provide funds for engineering and program support services.

AUSTIN INFORMATION SYSTEMS (AIS), Austin, TX. Provide funds for engineering and program support services.

UNIT OPERATIONS CENTER (UOC)

FY 03 GENERAL DYNAMICS, Scottsdale, AZ. Statement of Objectives for Combat Operations Center and Engineering Manufacture Development. May 02.

TARGET LOCATION DESIGNATION AND HAND-OFF SYSTEM (TLDHS)

FY 03 NSWC, Crane, IN. Technical design agent and in-service engineering agent. Mar 03.

Titan, Dumfries, VA. Program support. Oct 02.

ACS DEFENSE (SYNETICS), King George, VA. Software developer. Nov 02.

FY04 ACS DEFENSE (SYNETICS), King George, VA. Software developer. Nov 03.

Exhibit R-2, RDTE,N Budget Item Justification (Exhibit R-2, page 11 of 139)

Exhibit R-3 Cost A						DATE:				ruary 2004		
		CTIVITY PROGRAM ELEMENT						T NUMBE				
RDT&E, N /BA-7 O	•	Sys Dev 0206313M Marine Corps C		ions Sys				ommand I		tems		
		Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Cost Categories	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
UOC	WR	SPAWAR, Charleston, SC	6.116							0.000		
UOC	RCP	SPAWAR, Charleston, SC	0.000							0.000		
UOC	WR	MCSC, Quantico, VA	2.069	0.046	11/02					0.000		
UOC	RCP	General Dynamics, Scottsdale, AZ	7.000							0.000	14.408	
TCO	RCP	MCSC, Quantico, VA	0.518	0.005	12/02	0.160	12/03	0.254	12/03	0.000	0.937	
TCO	WR	SPAWAR. Charleston, SC	1.270	0.058	12/02	0.678	12/03	0.626	12/04	1.921	4.553	
MAGTF C4I BASELINE	RCP	SPAWAR, Charleston, SC	7.510	1.247	12/02	1.200	12/03	1.300	12/04	Cont.	Cont.	
MAGTF C4I BASELINE	RCP	Northrop Grumman, San Diego, CA	11.241	3.574	12/02	4.022	12/03	3.344	12/04	Cont.	Cont.	
MAGTF C4I BASELINE	RCP	Northrop Grumman, Stafford, VA	5.350	0.291	10/02	0.350	10/03	0.397	10/04	Cont.	Cont.	
MAGTF C4I BASELINE	RCP	Titan Corporation, Dumfries, VA		0.175	10/02	0.180	10/03	0.225	10/04	Cont.	Cont.	
MAGTF C4I BASELINE	WR	MCTSSA, Camp Pendleton, CA	0.725	0.000	12/02	0.179	12/03	0.187	12/04	Cont.	Cont.	
MAGTF C4I BASELINE	RCP	MCR Federal, McClean, VA		0.110	05/03					Cont.	Cont.	
MAGTF C4I BASELINE	RCP	JB Management		0.090	04/02					Cont.	Cont.	
MAGTF C4I BASELINE	WR	MCSC, Quantico, VA		0.146	10/02					Cont.	Cont.	
AFATDS	C/FFP	CECOM, Ft. Monmouth, NJ	1.858	1.612	12/02	0.515	12/03	0.950	12/04	Cont.	Cont.	
AFATDS	CPFF/MIPR	USA, CECOM	1.970	0.029	12/02					Cont.	Cont.	
AFATDS	WR	MCSC (MCTSSA), Quantico, VA	0.020	0.220	12/02					Cont.	Cont.	
AFATDS	CPFF/MIPR	CECOM, Ft. Monmouth, NJ	1.025	0.925	12/02			1.512	12/04	Cont.	Cont.	
AFATDS	FFP	Northrop Grumman, Stafford, VA		0.153	10/02	0.043		0.203	10/04	Cont.	Cont.	
GCCS-13	RCP	MTC, Woodbridge, VA	0.750	1.211	11/02	0.043	10/03	0.000		0.000	2.004	
GCCS-13	MIPR	NSA		0.032	12/02					0.000	0.032	
GCCS-13	RCP	AIS, Austin, TX		0.177	11/02					0.000	0.177	
DACT	TM	Raytheon, Fort Wayne, IN	1.896	0.587	10/02	0.200		0.105		Cont.	Cont.	
DACT	TM/MIPR	Booz-Allen, Ft. Monmouth, NJ	0.080	0.000		0.000		0.000		Cont.	Cont.	
DACT	FFP	Northrop Grumman, San Diego CA	1.131	0.439	11/02	0.000	11/03	0.592	11/04	Cont.	Cont.	
DACT	RCP	COMTECH, Germantown, MD				0.372	11/03	0.212	11/04	Cont.	Cont.	
DACT	WR	MCSC, Quantico, VA		1.500	01/03	0.689	02/04	0.300	01/05	Cont.	Cont.	
MCTEEP	C/CPFF	TBD		0.000		0.019	11/03			0.000	0.019	
TLDHS	RCP	ACS, King George, VA		1.529		0.142				Cont.	Cont.	
Subtotal Product	Dev		50.529			8.792		10.207		Cont.	Cont.	

R-1 SHOPPING LIST - Item No. 182

Exhibit R-2, RDTE,N Budget Item Justification (Exhibit R-2, page 12 of 139)

Exhibit R-3 Cost A	nalysis					DATE:			Feb	ruary 2004		
APPROPRIATION/E	BUDGET AC	CTIVITY PROGRAM ELEMENT				•	PROJEC	T NUMBE	R AND N	AME		
RDT&E, N/BA-7 O	perational S	Sys Dev 0206313M Marine Corps C	ommunicat	ions Sys		<u>_</u>	C2270 C	ommand F	Post Sys	tems		
	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Cost Categories	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
UOC	WR	2nd MARDIV	0.000	0.005	11/02					0.000	0.005	
UOC	WR	MARFORRES	0.000	0.000	10/02					0.000	0.000	
UOC	WR	1st MAW	0.000	0.005	10/02					0.000	0.005	
UOC	WR	MCTSSA	0.000	0.004	11/02					0.000	0.004	
DACT	FFP	NORTHROP GRUMMAN, Stafford, VA	0.300	0.424	10/02	0.252	10/03	0.250	10/04	Cont.	Cont.	
SIAP	RCP	CECOM, FT. MONMOUTH, NJ		1.286	06/03					0.000	1.286	
SIAP	RCP	MCSC, QUANTICO, VA		5.566	06/03					0.000	5.566	
SIAP	RCP	GSA, BREMERTON, WA		0.241	03/03					0.000	0.241	
SIAP	RCP	MCTSSA		0.242	05/03					0.000	0.242	
SIAP	RCP	NSWC, DAHLGREN		0.150	10/03					0.000	0.150	
SIAP	WR	MCSC, QUANTICO, VA		0.113	08/03					0.000	0.113	
SIAP	WR	NSWC, CRANE		1.045	09/03					0.000	1.045	
SIAP	RCP	NSWC, CRANE		0.440	02/03					0.000	0.440	
SIAP	RCP	REG CONT OFF		0.160	10/03					0.000	0.160	
SIAP	RCP	NAVASEA, WNY, DC		0.192	10/03					0.000	0.192	
TLDHS	WR	NSWC, DAHLGREN		0.638	11/02					0.000	0.638	
Subtotal Support			0.300	10.511		0.252		0.250		Cont.	Cont.	
Remarks:												
	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Cost Categories	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
TCO	RCP	MCTSSA, Camp Pndltn, CA	0.261	0.000	02/03	0.000		0.170	02/05	0.000	0.431	
IAS Mod	WR	NAVSEA, Crane	0.754	0.130	10/02					0.300	1.184	
IAS Mod	RCP	MCTSSA	0.236	0.000						0.100	0.336	
IAS Mod	RCP	SPAWAR, Charleston	1.035	0.801	11/02					0.449	2.285	

Remarks:

Subtotal T&E

DACT

UOC

UOC

TLDHS

TLDHS

TLDHS

TLDHS

WR

RCP

MIPR

RCP

RCP

RCP

RCP

FMF, MCB Camp Pendleton (I MEF)

Aberdeen Proving Ground, MD

MCOTEA, Quantico, VA

NAWC, China Lake, CA

NGIT, San Diego, CA

MCTOEA

NSWC, Crane

Cont.

0.000

0.000

0.000

0.000

0.000

0.000

Cont.

Cont.

0.360

0.155

0.144

0.082

1.149

2.635

Cont.

0.000

0.270

0.155

0.144

0.082

1.149

2.635

5.366

04/03

09/03

11/02

11/02

08/03

08/03

0.300

0.090

0.000

2.676

0.020

0.000

0.000

0.020

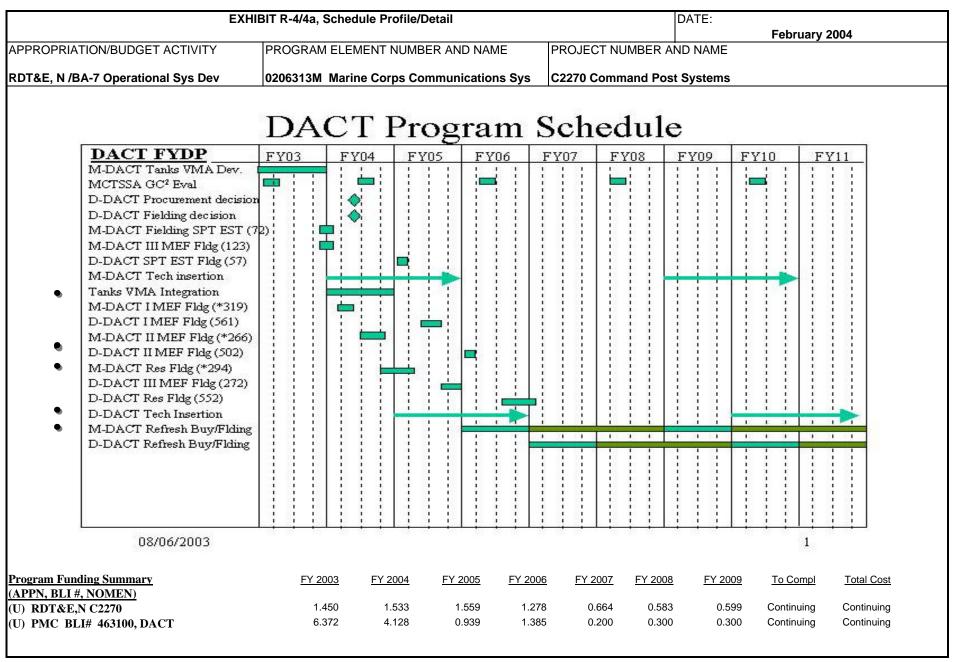
10/03

0.100

0.270

12/04

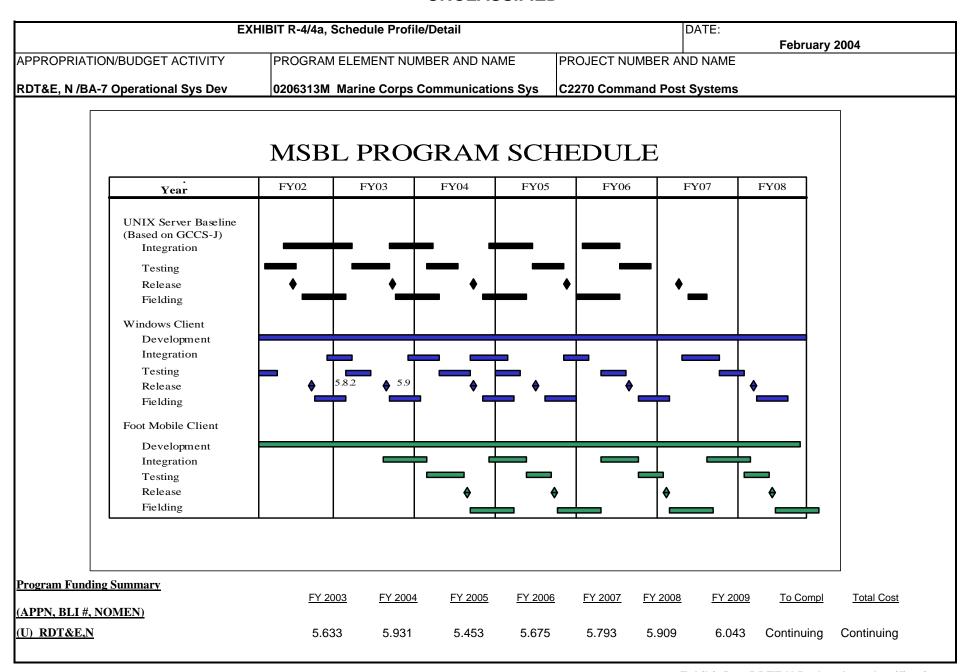
	Analysis					DATE:			Feb	ruary 2004		
APPROPRIATION/	/BUDGET AC	CTIVITY PROGRAM ELEMENT				*	PROJEC	T NUMBE	R AND N	AME		
		Sys Dev 0206313M Marine Co		ions Sys				ommand				
•	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &				FY 04	Award	FY 05	Award	Cost to	Total	Value of
Cost Categories	& Type	Location		Cost	Date	Cost	Date	Cost	Date			Contract
JOC	RCP	MITRETEK	0.000					-		0.000		
IOC	IDIQ	Logicon/NGIT, Stafford VA	5.036			0.000				0.000		
JOC	FFP	Mevatec, Crstl City VA	0.499			0.000				0.000		
Subtotal Manage		Workloo, Grou Gity V/	3.460			0.000				0.000		
Remarks:		l	0.100		I.	1	1		1			1
Ciliano.												
Total Cost				39.487		9.064		10.727	,	Cont.	Cont.	
otal Cost				33.401		3.004		10.727	1	Cont.	Cont.	1



R-1 SHOPPING LIST - Item No. 182

Exhibit R-2, RDTE,N Budget Item Justification (Exhibit R-2, page 15 of 139)

PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME	FY 2009
DACT SCHEDULE DETAIL FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 ID-DACT SYSTEM DEVELOPMENT IQ	FY 2009
DACT SCHEDULE DETAIL FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 I D-DACT SYSTEM DEVELOPMENT 1Q1Q 1Q	FY 2009
D-DACT SYSTEM DEVELOPMENT 1Q1Q D-DACT FIELDING DECISION 1Q D-DACT TECHNOLOGY INSERTION 1Q4Q D-DACT SYSTEM VALIDATION 3Q1Q5 D-DACT IOC 4Q M-DACT TECHNOLOGY INSERTION 2Q1Q M-DACT SYSTEM VALIDATION 1Q	FY 2009
D-DACT SYSTEM DEVELOPMENT 1Q1Q D-DACT FIELDING DECISION 1Q D-DACT TECHNOLOGY INSERTION 1Q4Q D-DACT SYSTEM VALIDATION 3Q1Q5 D-DACT IOC 4Q M-DACT TECHNOLOGY INSERTION 2Q1Q M-DACT SYSTEM VALIDATION 1Q	1 1 2000
D-DACT FIELDING DECISION 1Q D-DACT TECHNOLOGY INSERTION 1Q	
D-DACT TECHNOLOGY INSERTION 1Q 4Q 1Q 4Q D-DACT SYSTEM VALIDATION 3Q 1Q5	
D-DACT SYSTEM VALIDATION 3Q 1Q5 D-DACT IOC 4Q M-DACT TECHNOLOGY INSERTION 2Q	
D-DACT IOC 4Q M-DACT TECHNOLOGY INSERTION 2Q	
M-DACT SYSTEM VALIDATION 1Q 2Q	
M-DACT SYSTEM VALIDATION 1Q 2Q	
M-DACT FOLLOW ON FIELDING DECISION 2Q	



	EXI	HIBIT R-4/4a, So	chedule Profi	le/Detail				DATE:		
N D D D O D	RIATION/BUDGET ACTIVITY	DDOCDAM	ELEMENT NU	IMPED AND		TDDO IECT	NUMBER A	AND NAME	Februa	ary 2004
APPROPI	RIATION/BUDGET ACTIVITY	PROGRAM	ELEMENT NO	MIBER AND I	NAIVIE	PROJECT	NUMBER F	AND NAME		
RDT&E, N	N/BA-7 Operational Sys Dev	0206313M N	Marine Corps	Communica	tions Sys	C2270 Co	mmand Pos	st Systems		
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Į	MSBL SCHEDULE DETAIL		FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
[C2PC SOFTWARE RELEASES		3.3 2Q	5.9.0.3 4Q	6.0 3Q	7.0 3Q				
[C2PC LIGHT SOFTWARE RELEAS	3ES	(5.8.2) 3Q	4Q	3Q	3Q				
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EXHIBIT R-2	a, RDT&E Project J	ustification			DATE:		February 2004		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEM 0206313M Ma			systems		PROJECT NUMB C2272 Intellige		ms	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY2009	Cost To Complete	Total Program
Project Cost	24.129	17.759	32.294	27.668	20.964	17.441	15.566	Cont	Cont
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) Intelligence Command and Control (C2) supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence. It ensures that all-source tactical intelligence is tailored to meet specific mission requirements. The systems below collect and convert raw intelligence data on the battlefield into processed information and deliver the processed products to the Intelligence Analysis Systems (IAS) for analysis and dissemination.
- 1. Tactical Exploitation of National Capabilities (TENCAP) is a program designed to enhance the ability of tactical Marine Corps forces to exploit the capabilities of national intelligence-gathering systems. Congressionally directed, it requires close liaison with the intelligence community and involves complex and highly-sensitive activities.
- 2. The Topographic Production Capability (TPC) is an advanced Geospatial Information System, which employs commercial hardware and software to provide the framework data for the common battlefield visualization by producing geospatial intelligence products in digital format and limited hardcopy map products.
- 3. The Joint Surveillance Target Attack Radar (JSTARS) connectivity program will develop software which will allow the JSTARS Moving Target Indicator (MTI), Fixed Target Indication (FTI) and Synthetic Aperture Radar (SAR) Data to be passed from the JSTARS Common Ground Station (CGS) to lower echelons within the MAGTF. Once the Connectivity Software has been developed, a requirement for a JSTARS CGS software upgrade is anticipated under Joint Program Office Pre-Planned Product Improvement (P3I) initiative.
- 4. The Coastal Battlefield Reconnaissance and Analysis (COBRA) system is a passive multispectral sensor system capable of operating in a Manned Aircraft and an Unmanned Aerial Vehicle (UAV). Imagery recorded on the UAV or disseminated via data link is analyzed by the COBRA processing station. COBRA algorithm processing provides near real-time automatic minefield detection with Differential Global Positioning System (DGPS) location accuracy.
- 5. The JSIPS-TEG is a highly mobile imagery ground station designed to receive and process tactical imagery in support of the MEF/MAGTF commander. This Common Imagery Ground Surface System (CIGSS) is an integral component of the USMC Distributed Common Ground Station (DCGS) architecture that enables the MEF/MAGTF commander to remain interoperable with other Joint and USMC C4I systems. The system provides the capability to receive, process, store, exploit (to include PGM targeting support), and disseminate national theater, and tactical imagery, as well as providing interoperability with the Army's Tactical Exploitation System (TES), the Navy's Joint Services Imagery Processing System Navy (JSIPS-N), and the Air Force Intelligence Systems Reconnaissance Manager (ISRM) systems during joint engagements.
- 6. The Counterintelligence (CI) and Human Intelligence (HUMINT) Equipment Program (CIHEP) is an intelligence collection, analysis and reporting suite of equipment, employing Commercial-Off-The-Shelf (COTS) and non-developmental items (NDI) of equipment and software. It will produce digital soft copy as well as hard copy CI, Interrogator-Translator (IT) and HUMINT information reports and images for the Marine Air Ground Task Force (MAGTF) or Joint Force (JTF) Commander. CIHEP will allow the electronic storage and dissemination of HUMINT information throughout the command, as well as for low volume traditional hard copy dissemination.
- 7. Team Portable Collection System Multi-Platform Capable (TPCS-MPC) The TPCS- MPC will provide the MAGTF commander with a modular and scaleable carry on/off suite of equipment capable of conducting Signals Intelligence (SIGINT) operations onboard organic non-dedicated Marine Corps air, ground, and water borne platforms. The TPCS-MPC will be highly modular, mission configurable, multi-platform system incorporating plug-and-play technologies. The system will provide state-of-the-art, versatile air/ground/water borne SIGINT and EW support to the MAGTF through the use of lightweight, flexible mission equipment suites capable of detecting, identifying, locating, and exploiting current and emerging communications technologies, intercepting non-communication signals, and improving the system's geolocation accuracy.
- 8. Tactical Remote Sensor System (TRSS-PIP) The TRSS provides the Marine Air Ground Task Force (MAGTF) commander with an organic variety of sensors that will cover his Area of Responsibility for months at a time by allowing the commander to autonomously conduct unattended, semi-covert, ground surveillance of distant areas of the battlefield. Using a network of reliable passive sensors, these multiple systems enhance the commanders' ability to cover gaps in the overall intelligence collection effort, thus reducing the need to employ costly weapons systems. The sensor systems also reduces the requirement to employ Marines behind enemy lines for extended periods of time.

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EXHIBIT R-2a, R	DT&E Project Justification	DATE:	
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems		C2272 Intelligence C2 Systems

- 9. MAGTF Secondary Imagery Dissemination System (MSIDS) is a digital imagery collection/transmission system employed by Reconnaissance (Recon) and Light Armored Reconnaissance (LAR) Marines. MSIDS consist of one base station and three outstations. The base station consists of a ruggedized laptop computer and printer for hard copy printout of collected images. The outstation consists of a basic digital still-photo camera, advanced digital still-photo camera, night vision intensifier tube, and ruggedized ultra-portable laptop computer. All equipment comprising MSIDS is Commerical-Off-The-Shelf (COTS) or Government Off The Shelf (GOTS).
- 10. The Intelligence Analysis Systems (IAS) supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence; it ensures that tactical intelligence is tailored to meet specific mission requirements. A Marine Expeditionary Force (MEF) IAS variant will also process signal intelligence.
- 11. Global Command and Control System Integrated Imagery and Intelligence (GCCS I3) is a joint program that is designed to enhance the operational Commander's situation awareness and track management through the use of a standard set of integrated, linked tools and services that maximize commonality and interoperability across the tactical theater, and national communities. GCCS-I3 operates in joint and service specific battlespace and is interoperable, transportable, and compliant with the DoD mandated Common Operating Environment (COE).
- 12. Technical Control Analysis Center (TCAC). The primary mission of the TCAC is to provide the Radio Battalions (RadBn) with an automated Signals Intelligence (SIGINT) processing, analysis, and reporting capability. The TCAC system is designed to receive collected intelligence from tactical, theater and National level producers and provide a multi-source fused intelligence production capability to support the Marine Air Ground Task Force (MAGTF) commander via the Intelligence Analysis System (IAS), as well as the National Security Agency (NSA) and other National consumers.
- 13. Intelligence Broadcast Receiver (IBR) provides Marine tactical commanders access to National level Near Real-Time intelligence data provided over the Integrated Broadcast Service. IBR is employed across the MAGTF echelons through the following Host Systems; Intelligence Analysis System; Tactical Air Operations Center; Technical Control and Analysis Center; Tactical Air Command Center; Joint STARS Common Ground Station; Tactical Electronic Reconnaissance Processing and Evaluation System and Common Air Command and Control Systems and Joint Stars Work Station.
- 14. Intelligence System Readiness (ISR) Program will provide timely and targeted solutions to better enable the MAGTF Commander to accomplish his mission by (1) injecting technology rapidly, and (2) conducting up-front testing and integration. The current Marine Corps Intelligence architecture encompasses dozens of systems, acquired over a span of decades, often with little regard for interoperability. Additionally, some systems have gaps in functionality and interoperability which, when balanced against rapid advancements in technology, bring those systems to the brink of obsolescence. The ISR Program enhances the Marine Corps Intelligence Architecture by mitigating operational shortfalls through Commerical-Off-The-Shelf (COTS), Government-Off-The-Shelf (GOTS) and Non-Developmental Item (NDI) technology. In this way, ISR provides proof-of-concept prototypes and focused Research and Development (R&D) efforts to support the Marine Corps Intelligence Architecture and shorten the time required to fill gaps and field sytems. The ISR program Team also trains Marines to maximize new systems and capabilities.

FY03 DERF Funds are listed under Project C9273.

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FYHIRIT R-	2a, RDT&E Project Justification	DATE:	
LAHIBH N-	za, NDT&L Froject Justinication	DATE.	February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Sy	stems	C2272 Intelligence C2 Systems
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
accomplishment/Effort Subtotal Cost	0.080	0.031	0.035
RDT&E Articles Qty			
CIHEP: Engineering, Integration and T	echnical support for technical refresh and update of p	rogram hardware/softwa	are upgrades.
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.112	0.081	0.081
DT&E Articles Qty			
CIHEP: Program Management Suppor	rt for the technical refresh and update of program hard	lware/software upgrade:	S.
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.500	0.750	0.850
RDT&E Articles Qty			
COBRA: NAVSEA Technical and Cont	tractual Support.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.100	0.100	0.200
RDT&E Articles Qty			
COBRA: NAVAIR Technical Support, I	Platform Integration Services		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.223	0.480	0.982
RDT&E Articles Qty			
COBRA: MCSC Program Support			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	4.440	1.610	0.000
RDT&E Articles Qty			
COBRA: SD&D Contract, Northgrup G	Grumman, System Development, Spiral A.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.272	0.000	7.645
RDT&E Articles Qty	\$		1.5.0
	Grumman, System Development, Spiral B.		L
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	0.000	1.521	1.533
RDT&E Articles Qtv	0.000	1.321	1.333
	oment. Funding for this effort in FY02 and FY03 is pro	vided under Project C23	270 of this Program Flement (PE)
·	mient. Tanding for this enorth in F102 and F103 is pro		. ,
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.400	0.574
RDT&E Articles Qty			

Exhibit R-2, RDTE,N Budget Item Justification (Exhibit R-2, page 21 of 139)

PROJECT NUMBER 249, RDT&E Project Justification	UNCLASSIFIED				
APPROPRIATION BUDGET ACTIVITY	EXHIBIT R-	-2a, RDT&E Project Justification	DATE:		
RDT&E, N/BA-7 Operational Sys Dev					
COST (s in Millions)					
Accomplishment/Effort Subtotal Cost 0.000 0.077 0.000					
AS MOD: Joint interoperability assessment and documentation. Funding for this effort in FY02 is provided under Project C2270 of this PE. COST (§ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.297 0.431 RDT&E Articles Qty					
IAS MOD: Joint interoperability assessment and documentation. Funding for this effort in FY02 is provided under Project C2270 of this PE. COST (\$ in Millions)	'	0.000	0.077	0.000	
COST (\$ in Millions)			/02 is provided under Pro	niect C2270 of this PF	
Accomplishment/Effort Subtotal Cost 0.000 0.297 0.431			·	<u>*</u>	
Name	Accomplishment/Effort Subtotal Cost				
IAS MOD: Software modifications to support USMC joint interoperability. Funding for this effort in FY03 is provided under Project C2270 of this PE. COST (§ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost	·	0.000	0.297	0.431	
COST (\$ in Millions)		unport USMC joint interoperability. Funding for this ef	fort in FY03 is provided a	Inder Project C2270 of this PF	
Accomplishment/Effort Subtotal Cost IAS MOD Kit. Perform trade study for the IOS server, MEF IAS client and IOW laptop. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.277 0.288 RDT&E Articles Qty IBR: Engineering and technical management support. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.854 0.722 RDT&E Articles Qty IBR: Technical assessment of implementation of the Integrated Broadcast Service Common Message Format into Marine Corps Host Systems. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.340 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.340 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.420 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.420 RDT&E Articles Qty ISR: Engineering Support for delivery of new technology initiatives to the Operating Forces. COST (\$ in Millions) FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty ISR: System Engineering support for the ISR Testing and Training Center. COST (\$ in Millions) FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.316 0.261		·· · · · · · · · · · · · · · · · · · ·	·	•	
RDT&E Articles Qty					
IAS MOD Kit. Perform trade study for the IOS server, MEF IAS client and IOW laptop. COST (\$ in Millions)		0.000	0.200	0.000	
COST (\$ in Millions)	· · · · · · · · · · · · · · · · · · ·	At a 100 and a MEE 100 alient and 1000 lantage			
Accomplishment/Effort Subtotal Cost 0.000 0.277 0.288 RDT&E Articles Qty IBR: Engineering and technical management support. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.854 0.722 RDT&E Articles Qty IBR: Technical assessment of implementation of the Integrated Broadcast Service Common Message Format into Marine Corps Host Systems. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.340 RDT&E Articles Qty ISR: Program Management and Technical Support for the ISR Program. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.420 RDT&E Articles Qty ISR: Engineering Support for delivery of new technology initiatives to the Operating Forces. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty ISR: Engineering Support for delivery of new technology initiatives to the Operating Forces. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty ISR: System Engineering support for the ISR Testing and Training Center. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261	<u> </u>				
IBR: Engineering and technical management support.					
IBR: Engineering and technical management support.		0.000	0.277	0.288	
COST (\$ in Millions)	<u> </u>				
Accomplishment/Effort Subtotal Cost		<u> </u>			
IBR: Technical assessment of implementation of the Integrated Broadcast Service Common Message Format into Marine Corps Host Systems. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.340 ISR: Program Management and Technical Support for the ISR Program. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.420 RDT&E Articles Qty FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.420 ISR: Engineering Support for delivery of new technology initiatives to the Operating Forces. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 ISR: System Engineering support for the ISR Testing and Training Center. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261	COST (\$ in Millions)				
IBR: Technical assessment of implementation of the Integrated Broadcast Service Common Message Format into Marine Corps Host Systems. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.340 RDT&E Articles Qty		0.000	0.854	0.722	
COST (\$ in Millions)					
Accomplishment/Effort Subtotal Cost 0.000 0.000 0.340 RDT&E Articles Qty ISR: Program Management and Technical Support for the ISR Program. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.420 RDT&E Articles Qty ISR: Engineering Support for delivery of new technology initiatives to the Operating Forces. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty ISR: System Engineering support for the ISR Testing and Training Center. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261	IBR: Technical assessment of implem	entation of the Integrated Broadcast Service Commor			
SR: Program Management and Technical Support for the ISR Program. COST (\$ in Millions)					
ISR: Program Management and Technical Support for the ISR Program. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.420 RDT&E Articles Qty Significant for delivery of new technology initiatives to the Operating Forces. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty Significant for the ISR Testing and Training Center. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261	•	0.000	0.000	0.340	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty ISR: Engineering Support for delivery of new technology initiatives to the Operating Forces. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.308 RDT&E Articles Qty ISR: System Engineering support for the ISR Testing and Training Center. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261					
Accomplishment/Effort Subtotal Cost 0.000 0.000 0.420 RDT&E Articles Qty ISR: Engineering Support for delivery of new technology initiatives to the Operating Forces. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty ISR: System Engineering support for the ISR Testing and Training Center. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261	ISR: Program Management and Tech	nical Support for the ISR Program.			
ISR: Engineering Support for delivery of new technology initiatives to the Operating Forces. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty ISR: System Engineering support for the ISR Testing and Training Center. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261					
ISR: Engineering Support for delivery of new technology initiatives to the Operating Forces. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty ISR: System Engineering support for the ISR Testing and Training Center. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261	Accomplishment/Effort Subtotal Cost	0.000	0.000	0.420	
COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty ISR: System Engineering support for the ISR Testing and Training Center. FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261					
Accomplishment/Effort Subtotal Cost 0.000 0.000 0.308 RDT&E Articles Qty	ISR: Engineering Support for delivery	of new technology initiatives to the Operating Forces.			
## RDT&E Articles Qty ## ISR: System Engineering support for the ISR Testing and Training Center. ## COST (\$ in Millions)	COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
ISR: System Engineering support for the ISR Testing and Training Center. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261	Accomplishment/Effort Subtotal Cost	0.000	0.000	0.308	
COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261	RDT&E Articles Qty				
Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261	ISR: System Engineering support for t	he ISR Testing and Training Center.			
Accomplishment/Effort Subtotal Cost 0.260 0.316 0.261	COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
ADTAL ATTOOLOGALY	RDT&E Articles Qty				

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EXHIBIT R-	2a, RDT&E Project Justification	DATE:	February 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Sy	stems	C2272 Intelligence C2 Systems		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.166	0.000	0.000		
RDT&E Articles Qty					
JSTARS: Contractor advisory and ass	istance services.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.100	0.000	0.000		
RDT&E Articles Qtv					
JSTARS: Common Ground Moving Ta	arget Indication client testing.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.050	0.000	0.000		
RDT&E Articles Qtv	0.000	J.000	0.000		
JSTARS: Joint Services Work Stations	s (JSWS) Field User Evaluation (FUE).				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.338	0.000		
RDT&E Articles Qty					
JSTARS: Integration of MTES software	e upgrade into Common Ground Station (CGS) archit	ecture.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.483		
RDT&E Articles Qty	0.000	0.000	0.100		
	ing Target Indicator (MTI) sensors into JSTARS CGS	software baseline.			
			EV 2005		
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 0.485	FY 2004 0.400	FY 2005 0.355		
RDT&E Articles Qty	0.465	0.400	0.333		
JSIPS-TEG: Engineer and technical m	panagement support				
<u> </u>		= 1,			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	1.644	0.000	0.000		
RDT&E Articles Qty					
· · · · · ·		•	emerging airborne imagery sensor collection platforms		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	1.780	0.000		
RDT&E Articles Qty					
JSIPS-TEG: Development of Time Ser	nsitive Targeting (TST) interfaces within the common	software baseline.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.940		
RDT&E Articles Qty	<u> </u>				

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EXHIBIT R-2	2a, RDT&E Project Justification	DATE:	February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	<u> </u>	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication S	ystems	C2272 Intelligence C2 Systems
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.940
RDT&E Articles Qty			
JSIPS-TEG: Development of man-porta	able Common Data Link (CDL) capability.		_
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.146	0.147
RDT&E Articles Qtv		*****	
	port for product development of program hardware a	and software refresh.	
<u> </u>	FY 2003	FY 2004	FY 2005
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	0.000	0.064	0.055
RDT&E Articles Qty	0.000	0.004	0.055
	hnical support for product development of program I	hardware and software re	fresh.
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.021	0.038
RDT&E Articles Qty			
	hnical support for Technical and Evaluation of progr	am refresh.	<u> </u>
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.890	0.904
RDT&E Articles Qty	0.000	0.030	0.304
,	TCAC with COE 4.X and future releases.		
· · · · ·		- 1/ /	=1/.000
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	2.757	2.413	3.000
RDT&E Articles Qty		AMOTE P. LUIS	
•	ement; evaluate national intelligence data systems f		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.042	0.463	0.000
RDT&E Articles Qty			
TENCAP: Technical assessments of er	merging national data dissemination capabilities.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.015	0.000
RDT&E Articles Qty			
	to enhance operating force capabilities to US nation	nal intelligence data within	n the MAGTF C4I architecture.
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.000

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EXHIBIT R-2a, RDT&E Project Justification DATE: February 2004					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication S	systems	C2272 Intelligence C2 Systems		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
accomplishment/Effort Subtotal Cost	0.044	0.191	0.132		
RDT&E Articles Qty					
TPC: Contractor support for Mods					
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.189	0.207	0.215		
RDT&E Articles Qty					
TPC: Perform Mods OT&E					
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.404	0.348	0.743		
RDT&E Articles Qty					
TPCS-MPC: EDM Design.	<u>.</u>				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.525		
RDT&E Articles Qty					
TPCS-MPC: System development.					
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.879	0.000	0.000		
RDT&E Articles Qty	0.0.0	0.000	0.000		
TPCS-MPC: Training development and	d test support.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.884	0.126	0.392		
RDT&E Articles Qty	0.004	V.120	0.332		
TPCS-MPC: Program support and manage	gement.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.463		
RDT&E Articles Qtv	0.000	0.000	0.403		
TPCS-MPC: Contractor advisory assistar	nce service				
<u> </u>		E)/ 000 /	F)/ 0005		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.000	1.094		
RDT&E Articles Qty TPCS-MPC: Operational Test and Evalua	otion (OTSE)				
<u> </u>	<u> </u>				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost RDT&E Articles Qty	2.366	0.000	0.000		
JIIIVE Articles ()tu	I		i l		

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EXHIBIT R-2	2a, RDT&E Project Justification	DATE:	February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME
DT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication S	ystems	C2272 Intelligence C2 Systems
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
ccomplishment/Effort Subtotal Cost	0.000	0.000	0.154
DT&E Articles Qty			
TRSS-PIP: Acoustic classification effo	rt.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
ccomplishment/Effort Subtotal Cost	0.040	0.353	0.000
RDT&E Articles Qty			
TRSS-PIP: Software development of H SMS ver. 3.1 field verification/version 4.0.	IHPM and Low Cost Imager; Improved Air Delivered	Sensor (IADS) II; Encod	der Treansmitter Unit (ETU) II; Windows 2000 mig
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
ccomplishment/Effort Subtotal Cost	0.000	0.000	0.000
DT&E Articles Qty			
TRSS-PIP: R&D contractual supports	for HHPM and Low-Cost Imager.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
ccomplishment/Effort Subtotal Cost	0.224	0.000	0.280
RDT&E Articles Qty			
TRSS-PIP: R&D support.	·		<u> </u>
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
ccomplishment/Effort Subtotal Cost	0.000	0.000	0.000
DT&E Articles Qty			
TRSS-PIP: R&D support for alternative	life-cycle maintenance effort.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
ccomplishment/Effort Subtotal Cost	0.000	0.000	0.000
DT&E Articles Qty			
TRSS-PIP: Field-testing and evaluation	n of IADS II.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
ccomplishment/Effort Subtotal Cost	0.615	2.000	2.000
RDT&E Articles Qty			
	d Ground Miniaturized Sensors (UGMS) and AADS	electronic components.	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
ccomplishment/Effort Subtotal Cost	0.000	0.810	4.150
DT&E Articles Qty			
TRSS-PIP: Air Certification of Advance	ed Air Delivered Sensor (AADS) store.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
σσοι (φ ii i iviiiiσi 3)			
accomplishment/Effort Subtotal Cost	0.000	0.200	0.400

DATE: Fe APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER RDT&E, N /BA-7 Operational Sys Dev 0206313M Marine Corps Communication Systems C2272 Intelligen COST (\$ in Millions) FY 2003 FY 2004 FY 2004 FY 2005 FY 2004 FY 2005 FY 20	5 5
APPROPRIATION/BUDGET ACTIVITY ROGRAM ELEMENT NUMBER AND NAME COST (\$ in Millions) FY 2003 FY 2004 FY 2004 FY 2004 FY 2005 FX 2005 FY 2004 FY 2005 FX 2	AND NAME ce C2 System 5
COST (\$ in Millions) FY 2003 FY 2004 FY 2008 FY 2004 FY 2009 F	5 5 5
COST (\$ in Millions) FY 2003 FY 2004 FY 2004 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.166 RDT&E Articles Qty TRSS-PIP: Development of air relay/recovery. COST (\$ in Millions) FY 2003 FY 2004 FY 2004 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.056 RDT&E Articles Qty TRSS-PIP: Development of alternative power. COST (\$ in Millions) FY 2003 FY 2004 FY 2004 Accomplishment/Effort Subtotal Cost 7.253 0.000 0.000 RDT&E Articles Qty PBD-290: OSD Derf Execution.	5
RDT&E Articles Qty TRSS-PIP: Development of air relay/recovery. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TRSS-PIP: Development of alternative power. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 RTRSS-PIP: Development of alternative power. COST (\$ in Millions) FY 2003 FY 2004 FY 2004 FY 2004 Accomplishment/Effort Subtotal Cost 7.253 0.000 0.000 0.000 RDT&E Articles Qty PBD-290: OSD Derf Execution.	5
TRSS-PIP: Development of air relay/recovery. COST (\$ in Millions) FY 2003 FY 2004 FY 2004 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty TRSS-PIP: Development of alternative power. COST (\$ in Millions) FY 2003 FY 2004 FY 2004 Accomplishment/Effort Subtotal Cost 7.253 0.000 0.000 RDT&E Articles Qty PBD-290: OSD Derf Execution.	5
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TRSS-PIP: Development of alternative power. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost TRSS-PIP: Development of alternative power. FY 2003 FY 2004 FY 2005 FY 2005 FY 2006 FY 2006 TRSS-PIP: Development of alternative power. COST (\$ in Millions) FY 2007 FY 2008 FY 2009 FY 2009 FY 2009 FY 2009 PPD-290: OSD Derf Execution.	5
Accomplishment/Effort Subtotal Cost 0.000 0.000 0.005 RDT&E Articles Qty TRSS-PIP: Development of alternative power. COST (\$ in Millions) FY 2003 FY 2004 FY 2004 Accomplishment/Effort Subtotal Cost 7.253 0.000 0.000 RDT&E Articles Qty PBD-290: OSD Derf Execution.	5
RDT&E Articles Qty TRSS-PIP: Development of alternative power. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty PBD-290: OSD Derf Execution.	5
TRSS-PIP: Development of alternative power. COST (\$ in Millions) FY 2003 FY 2004 FY 2004 Accomplishment/Effort Subtotal Cost 7.253 0.000 0.000 RDT&E Articles Qty PBD-290: OSD Derf Execution.	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty PBD-290: OSD Derf Execution.	
Accomplishment/Effort Subtotal Cost 7.253 0.000 0.000 RDT&E Articles Qty PBD-290: OSD Derf Execution.	
RDT&E Articles Qty PBD-290: OSD Derf Execution.	
PBD-290: OSD Derf Execution.	
(U) Total \$ 24.129 17.759 32.294	
U) PROJECT CHANGE SUMMARY:	
FY2003 FY2004 FY2005	
(U) FY 2004 President's Budget: 18.352 17.616 32.424	
(U) Adjustments from the President's Budget:	
(U) Congressional/OSD Prog Reduction	
(U) Congressional Rescissions	
(U) Congressional Increases	
(U) Reprogrammings 5.777 0.350	
(U) SBIR/STTR Transfer	
(U) Minor Affordability Adjustment -0.207 -0.130	
(U) FY 2005 Navcompt Budget: 24.129 17.759 32.294	
(U) FY 2005 Navcompt Budget: 24.125 17.739 32.254	
CHANGE SUMMARY EXPLANATION:	
(U) Funding: See Above.	
(U) Schedule: Not Applicable.	
(U) Technical: Not Applicable.	

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E	XHIBIT R-2a, R	RDT&E Project Jus	tification			DATE:				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys	Dev	PROGRAM ELEMEN 0206313M Marin							ns	
(U) C. OTHER PROGRAM FUND	ING SUMMARY	Y:								
Line Item No. & Name		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cos
PMC BLI 471400 Intell Support	TRSS-PIP	0.000	9.406	10.622	20.048	18.743	16.414	13.814	Continuing	Continuing
PMC BLI 474700 Intell Support	TRSS-PIP	3.941	0.000	0.000	0.000	0.000	0.000	0.000	0	3.941
PMC BLI 474700 Intell Support Eq	CIHEP	1.798	1.376	1.489	1.585	1.681	1.803	1.909	Continuing	Continuing
PMC BLI 474700 Intell Support Eq	COBRA	0.000	0.000	0.000	1.210	1.817	3.227	0.250	Continuing	Continuing
PMC BLI 474700 Intell Support Eq	JSIPS	8.970	2.875	0.618	0.000	0.000	0.000	0.000	0	12.463
PMC BLI 474700 Intell Support Eq	TPCS-MULTI	0.000	0.000	6.360	8.038	7.746	5.936	0.299	Continuing	Continuing
PMC BLI 474700 Intell Support Eq	MSIDS	0.000	1.051	2.857	1.711	1.712	1.762	1.721	Continuing	Continuing
PMC BLI 474700 Intell Support Eq	IBR	0.100	1.557	3.545	1.409	0.418	0.428	0.436	Continuing	Continuing
PMC BLI 474700 Intell Support Eq	TPC	4.572	3.280	0.573	0.000	0.000	0.000	0.000	Continuing	Continuing
PMC BLI 474700 Intell Support Eq	RREP	2.742	0.000	0.000	4.194	0.000	0.000	4.228	Continuing	Continuing
PMC BLI 474700 Intell Support Eq	TSCM	0.000	2.220	0.000	1.233	0.000	1.330	0.000	Continuing	Continuing
PMC BLI 474700 Intell Support Eq	IAS MOD Kit	0.665	1.347	1.354	1.375	1.398	1.445	1.474	Continuing	Continuing
PMC BLI 474900 Mod Kits Intell	TCAC	1.343	0.350	1.545	0.945	0.945	0.945	1.145	Continuing	Continuing
PMC BLI 474900 Mod Kits Intell	JSTARS	0.256	3.273	4.604	4.615	0.086	4.621	1.502	Continuing	Continuing
PMC BLI 474900 Mod Kits Intell	TERPES	1.163	2.828	0.000	3.022	0.000	3.182	0.000	Continuing	Continuing
PMC BLI 474900 Mod Kits Intell	ISR	0.000	0.000	2.048	4.579	4.624	4.761	4.798	Continuing	Continuing

(U) Related RDT&E:

- (U) PE 0301301L (Department of Defense Intelligence and Information Systems/Military Intelligence Integrated Data System/Integrated Data Base I and II)
- (U) PE 0604270A (Intelligence and Electronic Warfare Common Sensor (IEWCS), TACJAM-A)
- (U) PE 0305885G (Tactical Cryptologic Program)
- (U) PE 0603730A (Tactical Surveillance System Advanced Development), Army TENCAP, Project D560
- (U) PE 0603766A (Tactical Electronic Surveillance System Advanced Development), Army TENCAP, Project D907
- (U) PE 0604740A (Tactical Surveillance System Engineering Development), OSD TENCAP, Project D662
- (U) PE 0902398M (United States Special Operations Command), Chariot Program
- (U) PE 0605867N (SEW Surveillance/Reconnaissance Support), Project Z1034
- (U) PE 0206313M (Marine Corps Communication Systems), Project C9273

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APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev 0206313M Marine Corps Communication Systems			C2272 Intelligence C2 Systems		

- (U) ACQUISITION STRATEGY JSTARS: JSTARS will utilize ongoing Army and Navy JSTARS contracts for procurement of follow-on Common Data Link (CDL) upgrades and for Pre-Planned Product Improvements (P3I) to the JSTARS CGS software baseline. SPAWAR-Charleston, SC will oversee the integration and testing of these upgrades within the USMC C4I architecture. On-Site contractor logistical support will be provided through General Dynamic's I2P2 contract out of MCLB, Albany, GA.
- (U) ACQUISITION STRATEGY COBRA: COBRA System Development, Test and Demonstration based upon a competitive, multi-year, CPFF/CPIF contract awarded to Northrop Grumman 4Q 2001. Production will be FFP. Technology insertion will add objective capabilities as they are matured and integrated by other DOD organizations.
- (U) ACQUISITION STRATEGY JSIPS TEG: The three deployed TEG(s) were procured from an ESC USAF Raytheon contract. During FY02, the Marine Corps brought control of the TEG program into Marine Corps System Command. A contract is in place with SPAWAR Charleston, SC to upgrade the TEG(s), conduct training, provide logistical support, sustainment and program management. Once a system baseline is established and tested, a MS C decision will be scheduled.
- (U) ACQUISITION STRATEGY TPCS: TPCS, the ever-increasing sophistication of target threats and information technology necessitates an evolutionary acquisition approach. TPCS will make incremental improvements through maximum use of COTS, GOTS and NDI. These technology insertions and product improvements will ensure the Radio Battalions maintain cutting edge technologies and collection capabilities.
- (U) ACQUISITION STRATEGY TRSS: Development will be competitive down selection process to two vendors for a Cost Plus Development Contract followed up with an award to one vendor with a FFP Production Contract. Air certification will be conducted in house at NAVAIR Patuxent River NAS. MD.
- (U) ACQUISITION STRATEGY TENCAP: Work will be led in-house. Necessary contractor support will be acquired using already existing contracts.
- (U) ACQUISITION STRATEGY CIHEP: CIHEP will use existing 8A contractor, Action Systems, the developer of the original system for test, evaluation and integration of planned refresh items for the ADP and Imagery Module. US Army IMA will be used for test, evaluation, and integration of planned refresh items for the TSS, Audio and Miscellaneous modules. CIHEP will coordinate acquisitions of communications equipment with PM Comm for planned upgrades to the Communications Module.
- (U) ACQUISITION STRATEGY MSIDS: A complete refresh of the 73 MSIDS suites was completed in 1QTR FY03. Subsequent "block refreshes" beginning in FY04 are required in order to keep the systems from again becoming unreliable and unsupportable. The block refresh approach will effectively leverage technological advances. Each block of upgrades will refresh 1/3 of the fielded components. A contract is in place with Northrop Grumman and Integrity Data Inc to provide configuration management, research and development and program management support.
- (U) ACQUISITION STRATEGY GCCS-I3: The contract vehicle to be used is an existing Cost Reimbursable contract. An Intelligence Integration Facility has been established at the Integrated Team Solution Facility. As such, this facility will be used as the hub for the entire integration effort of the GCCS-I3 initiative. The program is funded for five years beginning in FY02 and, as it is not a procurement effort, there are no life cycle or acquisition phases for which the Marine Corps is responsible.
- (U) ACQUISITION STRATEGY TCAC: The acquisition of components for the TCAC will maximize the use of existing equipment, NDI/COTS/GFE equipment/software. The integration effort for TCAC hardware components will be accomplished under the control of the SSA, MCSC. Software integration and support will be accomplished by contractors under the control of the Project Officer. These activities report to and are directed by the Program Manager, Intelligence Systems, Marine Corps Systems Command (MARCORSYSCOM). Maintenance support will be managed by MARCORLOGBASES Albany and MCSC, Albany and through separate contractual agreements.
- (U) ACQUISITION STRATEGY IBR: In house contracts will be used to conduct engineering studies and test and evaluation activities associated with the Marine Corps implementation of the Integrated Broadcast Service, Common Message Format.

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EXHIBIT R-	-2a, RDT&E Project Justification	DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206313M Marine Corps Communication Systems	PROJECT NUMBER AND NAME
(U) ACQUISITION STRATEGY TPC: TPC w upgrade).	ill continue Mods to system including the very large part of s	software/COTS upgrades. (Software will need security testing at each software
	ntly, full-time contractor support is provied by BAE Applied T	ry approach of the new DoD 5000 series guidance to allow for a quick and efficient Technologies, Bulldog Technical Services, and MTC Services Corporation. All
(U) ACQUISITION STRATEGY IAS: The IAS Commercial Off-the-Shelf (COTS) and Gover		re and software development and integration. The system is comprised primarily of
(U) E. MAJOR PERFORMERS:		
Northrop Grumman Information Techn FY 05 Integrity Data Inc (IDI), Colorado Sprir	ngs, Colorado. Provide funds for integration and sustainmen hology (NGIT), Stafford, VA Provide funds for engineering ar ngs, Colorado. Provide funds for integration and sustainmen hology (NGIT), Stafford, VA Provide funds for engineering ar	and program management support. ent support.
COMPUTER SCIENCE CORPORAT FY 05 NORTHROP GRUMMAN INFORMAT	CION TECHNOLOGY (NGIT), Stafford, VA Provide funds for TION (CSC), Woodbridge, VA Provide funds to MDA Technot TION TECHNOLOGY (NGIT), Stafford, VA Provide funds for	nologies for IBS Common Message format implementation assessment.
		roperability testing, trade study for IOS server and clients and integration of JTT. perability, assessment and documentation and joint tactical terminal integration.

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			February 2004		
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev 0206313M Marine Corps Communication Systems			C2272 Intelligence C2 Systems		

(U) E. MAJOR PERFORMERS:

TEAM PORTABLE COLLECTION SYSTEM - MULTI-PLATFORM CAPABLE (TPCS-MPC)

FY 03 SPAWAR, CHARLESTON, S.C. Provide funds for prime systems integrator for TPCS-MPC EDM.

COMPUTER SCIENCE CORP, Dumfries, VA Funds provided for SETA support for Configuration Management (CM).

TITAN, Dumfries VA Funds provide Contractor Engineering Technical Support (CETS) at RadBn for training support and Independent Validation and Verification (IV&V) at 1st and 2nd RadBn.

- FY04 COMPUTER SCIENCE CORP, Dumfries, VA Funds provided for SETA support for Configuration Management (CM).
- FY 05 SPAWAR, CHARLESTON, S.C. Provide funds for prime systems integrator for TPCS-MPC EDM.

COMPUTER SCIENCE CORP, Dumfries, VA Funds provided for SETA support for Configuration Management (CM).

MARINE CORP OPERATIONAL TEST & EVALUATION ACTIVITY (MCOTEA), Quantico, VA Funds provides IOT&E.

TITAN, Dumfries VA Funds provide Contractor Engineering Technical Support (CETS) at RadBn for training support.

GLOBAL COMMAND AND CONTROL SYSTEM INTEGRATED IMAGERY AND INTELLIGENCE (GCCS I3)

FY 04 MTC Services Corporation (MTC) Stafford, VA. Provide funds for Engineering and Program support services.

Austin Information System (AIS), Austin, TX. Provide funds for Engineering support.

FY 05 MTC Services Corporation (MTC) Stafford, VA. Provide funds for Engineering and Program support services.

COASTAL BATTLEFIELD RECONNAISSANCE AND ANALYSIS (COBRA)

FY 03 NAVAL SEA WARFARE COMMAND (NSWC), Panama City, FL Provide funds for program and technical support.

NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), Melborne, FL Provide funds system engineering and development of Spiral A and Spiral B. MARCORSYSCOM, (MCSC), Quantico, VA Provide funds for Program and technical support.

FY 04 NAVAL SEA WARFARE COMMAND (NSWC), Panama City, FL Provide funds for program and technical support.

NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), Melborne, FL Provide funds system engineering and development of Spiral A and Spiral B. MARCORSYSCOM, (MCSC), Quantico, VA Provide funds for Program and technical support.

FY 05 NAVAL SEA WARFARE COMMAND (NSWC), Panama City, FL Provide funds for program and technical support.

NORTHROP GRUMMAN INFORMATION TECHNOLOGY (NGIT), Melborne, FL Provide funds system engineering and development of Spiral A and Spiral B. MARCORSYSCOM, (MCSC), Quantico, VA Provide funds for Program and technical support.

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			February 2004		
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems		C2272 Intelligence C2 Systems		

(U) E. MAJOR PERFORMERS:

TOPOGRAPHIC PRODUCTION CAPABILITY (TPC)

- FY 03 MARCORSYSCOM, (MCSC), Quantico, VA Provide funds to Northrop Grumman Information Technology, TASC, for DII COE software segmentation Dec 02 MARCORSYSCOM. (MCSC), Quantico, VA Provide funds for program office support under CEOSS contract Oct 02
- FY 04 MARCORSYSCOM, (MCSC), Quantico, VA Provide funds to Northrop Grumman Information Technology, TASC, for DII COE software segmentation Dec 03 MARCORSYSCOM, (MCSC), Quantico, VA Provide funds for program office support under CEOSS contract Oct 03
- FY 05 MARCORSYSCOM, (MCSC), Quantico, VA Provide funds to Northrop Grumman Information Technology, TASC, for DII COE software segmentation Dec 03 MARCORSYSCOM, (MCSC), Quantico, VA Provide funds for program office support under CEOSS contract Oct 03

JOINT SURVEILLANCE TARGET ATTACK RADAR (JSTARS)

- FY 03 SPAWAR, CHARLESTON, S.C. Provide funds for depot support, CGC integration and interoperability development.

 TBD. Provide funds for Acquisition and Technical Support.
- FY 04 SPAWAR, CHARLESTON, S.C. Provide funds for depot support, CGC integration and interoperability development. TBD, Provide funds for Acquisition and Technical support.
- FY 05 SPAWAR, CHARLESTON, S.C. Provide funds for depot support, CGC integration and interoperability development. TBD, Provide funds for Acquisition and Technical support.

JOINT SERVICE IMAGERY PROCESSING SYSTEM-TACTICAL EXPLOITATION GROUP (JSIPS-TEG)

- FY 03 ARMY SPACE PROGRAM OFFICE, Washington, DC. Classified contract.
 - MARCORSYSCOM, Quantico, VA. (MTC), Provide funds for Acquisition and Technical support.
- FY 04 ARMY SPACE PROGRAM OFFICE, Washington, DC. Classified contract.
 - MARCORSYSCOM, Quantico, VA. (MTC), Provide funds for Acquisition and Technical support.
- FY 05 ARMY SPACE PROGRAM OFFICE, Washington, DC. Classified contract.
 - MARCORSYSCOM, Quantico, VA. (MTC), Provide funds for Acquisition and Technical support.
 - L3 COMM, Salt Lake City, UT. Provide funds for TIGDL development.

TACTICAL CONTROL AND ANALYSIS CENTER (TCAC)

FY 04 TITAN, Fairfax, VA. Provide funds to develop additional analytical tools, integrate software changes and migrate software baseline to COE 4.x and beyond. Integrate new hardware/software into existing systems. Oct 03

FY 05 TITAN, Fairfax, VA. Provide funds to develop additional analytical tools, integrate software changes and migrate software baseline to COE 4.x and beyond. Integrate new hardware/software into existing systems. Oct 04

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EXHIBIT R-2a, RDT&E Project Justification DATE:									
			February 2004						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication Systems		C2272 Intelligence C2 Systems						

(U) E. MAJOR PERFORMERS:

TACTICAL REMOTE SENSOR SYSTEM (TRSS)

- FY03 NAWC, Crane IN. Funds to be provided towards the development of Low-Cost Imager (UGMS-I). Feb 03
- FY03 MODERN TECHNOLOGIES CORP., Springfield, VA. Funds to be provided for Alternative Life-Cycle Maintenace. Feb 03
- FY03 MARCORSYSCOM (MCSC), Quantico, VA. Funds to be provided for the development of the Advanced Air-Delivered Sensor (AADS). Mar 03
- FY03 NAVAIR, Patuxent River, MD. Funds to be provided to PM-265 to begin air certification process of the AADS store. Apr 03.
- FY03 OCEAN SYSTEMS ENGINEERING CORP. (OSEC), Carlsbad, CA. Funds to be provided for Software Development of UGMS Monitoring System. Apr 03.
- FY 04 OCEAN SYSTEMS ENGINEERING CORPORATION (OSEC), Carlsbad, CA. Funds to be provided for software development of the AADS, UGMS and VISTAS. Oct 04.
- FY04 MARCORSYSCOM (MCSC), Quantico, VA. Funds to be provided for the development of the AADS Store. Oct 04.
- FY04 MARCORSYSCOM (MCSC), Quantico, VA. Funds to be provided for the development of the VISTAS. Oct 04.
- FY04 NAVAIR, Patuxent River, MD. Funds to be provided for Consulting of AADS Store. Oct 04.
- FY05 MTC SERVICES CORPORATION, Chula Vista, CA. Funds to be provided for the continuation of development of mobile sensors. Dec 04.
- FY 05 OCEAN SYSTEMS ENGINEERING CORP (OSEC), Carlsbad, CA. Funds to be provided for software development of mobile sensors, VISTAS, and Air Relay/Recovery. Dec 04.
- FY05 MARCORSYSCOM (MCSC), Quantico, VA. Funds to be provided to continue the development of the VISTAS and Alternative power. Dec 04.
- FY05 NAVAIR, Patuxent River, MD. Funds to be provided for the development of the air relay/air recovery. Dec 04.

COUNTERINTELLIGENCE AND HUMAN INTELLIGENCE (HUMINT) EQUIPMENT PROGRAM (CIHEP)

- FY03 MARCORSYSCOM (MCSC), Quantico, VA. Funds provided to Northrop Grumman IT, Stafford, VA for Program Management support for tech refresh and upgrade of program hardware and software Oct 02.
- FY03 MARCORSYSCOM (MCSC), Quantico, VA. Funds provided to MTC Service Corp Dumfries, VA for Program Management support for tech refresh and upgrade of program hardware and software Oct 02.
- FY03 MARCORSYSCOM (MCSC), Quantico, VA. Program Management support for tech refresh and upgrade of program hardware and software Oct 02.
- FY03 ACTION SYSTEMS, Las Cruces, NM. Engineering, Integration and technical support for tech refresh and upgrade of program hardware and software Oct 02.
- FY04 MARCORSYSCOM (MCSC), Quantico, VA. Funds provided to Northrop Grumman IT, Stafford, VA for Pgm Mgmt support for tech refresh and upgrade of program hardware and software Oct 03.
- FY04 MARCORSYSCOM (MCSC), Quantico, VA. Funds provided to MTC Service Corp Dumfries, VA for Pgm Mgmt support for tech refresh and upgrade of program hardware and software Oct 03.
- FY04 MARCORSYSCOM (MCSC), Quantico, VA. Program Management support for tech refresh and upgrade of program hardware and software Oct 03.
- FY04 USAIMA, Fort Meade, MD. Engineering, Integration and technical support for tech refresh and upgrade of program hardware and software Oct 03.
- FY05 MARCORSYSCOM (MCSC), Quantico, VA. Funds provided to Northrop Grumman IT, Stafford VA for Pgm Mgmt support for tech refresh and upgrade of program hardware and software Oct 04.
- FY05 MARCORSYSCOM (MCSC), Quantico, VA. Funds provided to MTC Service Corp Dumfries, VA for Pgm Mgmt support for tech refresh and upgrade of program hardware and software Oct 04.
- FY05 MARCORSYSCOM (MCSC), Quantico, VA. Program Management support for tech refresh and upgrade of program hardware and software Oct 04.
- FY 05 ACTION SYSTEMS, Las Cruces, NM. Engineering, Integration and technical support for tech refresh and upgrade of program hardware and software Oct 04.

							DATE:								
Exhibit R-3 Cost Analysis							February 2004								
APPROPRIATION/BUDGET	ACTIVITY	· F	PROGRAM EL	EMENT.			PROJECT NUMBER AND NAME								
									_						
RDT&E, N /BA 7 Operationa)206313M Ma				C2272 Intel		Systems	I 			_		
Cost Categories Contract Performing				Total		FY 03		FY 04		FY 05			Target		
(Tailor to WBS, or Sys/Item		Activity &				Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of		
Requirements)	71 7	Location				Date	Cost	Date	Cost	Date	Complete	Cost	Contract		
TENCAP	Various	Titan		11.421	0.042		0.463		0.000		Cont.	Cont.			
TENCAP	TBD	TBD		0.685			0.015	12/03	0.000	12/04	Cont.	Cont.			
COBRA		MARCORSY		0.665							Cont.	Cont.			
COBRA		NG,Melbourn	ie		0.272	10/03	1.610		7.645		Cont.	Cont.			
TPCS-MPC	WR	SPAWAR		1.931	0.404	12/02	0.348	11/04	0.743	01/05	Cont.	Cont.			
MSIDS	RCP	IDI					0.146	01/04	0.147	02/05	Cont.	Cont.			
CIHEP	RCP	Action Syster	ms	0.031	0.096	12/02			0.035	12/04	Cont.	Cont.			
CIHEP	RCP	USAIMA					0.031	12/03			Cont.	Cont.			
CIHEP	RCP	NGIT			0.012	01/03	0.020	01/04	0.025	01/05	Cont.	Cont.			
CIHEP	RCP	MTC Service	Corp		0.013	01/03	0.020	01/04	0.025	01/05	Cont.	Cont.			
CIHEP	RCP	MCSC	•	0.085	0.071	06/03	0.041	06/04	0.031	06/05	Cont.	Cont.			
TRSS-PIP	RCP	NAWC, Cran	е	1.000	2.366	02/03					Cont.	Cont.			
TRSS-PIP	RCP	ModernTC		0.329	0.180	02/03	0.000	01/04	0.280	12/04	Cont.	Cont.			
TRSS-PIP	RCP	OSEC		0.799	0.040	04/03	0.553	01/04	0.400	12/04	Cont.	Cont.			
TRSS-PIP	MIPR	ESC			0.615		1.500		2.000		Cont.	Cont.			
TRSS-PIP		NAVAIR					0.805		4.150	12/04	Cont.	Cont.			
TRSS-PIP	RCP	ATMS			0.044	03/03						0.044	1		
TRSS-PIP	1	Chicken Little)				0.000	01/04	0.154	01/05		0.154	1		
IBR		NGIT					0.277	10/03	0.288		Cont.	Cont.			
IBR	RCP	CSC/MDA					0.754	10/03	0.722		Cont.	Cont.			
Subtotal Product Develop	ment			16.946	9.128		6.583		16.645		Cont.	Cont.			

							DATE:								
Exhibit R-3 Cost Analysis									F	ebruary 200)4				
APPROPRIATION/BUDGET	ACTIVITY	•	PROGRAM EL	EMENT			PROJECT NUMBER AND NAME								
RDT&E, N /BA 7 Operational	al Sys Dev	1	0206313M Ma	rine Corps C	ommunicati	ons Sys	C2272 Inte	Iligence C2	Systems						
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			Target		
(Tailor to WBS, or Sys/Item	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of		
Requirements)	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract		
TENCAP	Various	Titan		5.784	2.757	10/02	2.413	12/03	3.000	12/04	Cont.	Cont.			
TENCAP	TBD	TBD		0.467	0.000	03/03	0.000	12/03	0.000	12/04	Cont.	Cont.			
COBRA	RCP	CSS		3.558	0.059	10/02	0.850	10/03	0.850	11/04	Cont.	Cont.			
COBRA	WR	BRTRC		0.366	0.006	12/02					Cont.	Cont.			
	WR	NAWC-AD		0.420	0.200	12/02					Cont.	Cont.			
	WR	NSWC		1.157	0.025	04/03					Cont.	Cont.			
COBRA	RCP	various					0.480	12/03	0.982	12/04	Cont.	Cont.			
COBRA	WR	NAVAIR							0.200	11/04	Cont.	Cont.			
JSIPS - TEG	WR	NSWC, Cra	ine	0.377							Cont.	Cont.			
JSIPS - TEG	RCP	ASPO		0.485	0.485	10/02	0.400	10/03	0.355	10/04	Cont.	Cont.			
JSIPS - TEG	RCP	MCSC		1.644	1.644	01/03	1.815	01/04	0.940	01/05	Cont.	Cont.			
JSIPS - TEG	RCP	L3 COMM							0.940	1//05	Cont.	Cont.			
TPC	RCP	MCSC		0.650	0.044	12/02	0.191	12/03	0.132	12/04	Cont.	Cont.			
TPCS-MPC	RCP	MTC		0.561	0.000				0.392	01/05	Cont.	Cont.			
TPCS-MPC	RCP	CSC		1.284	0.884	04/03	0.126	12/03	0.525	01/05	Cont.	Cont.			
TPCS-MPC	MIPR	MCOTEA							1.094	01/05	Cont.	Cont.			
MSIDS	RCP	NGIT					0.050	01/04	0.050	01/05	Cont.	Cont.			
IAS MOD KIT	RCP	SPAWAR					0.470	10/03	0.288	10/04	Cont.	Cont.			
IAS MOD KIT	WR	SPAWAR					0.311	11/03	0.431	11/04	Cont.	Cont.			
IAS MOD KIT	WR	MTC					0.193	11/03	0.286	11/04	Cont.	Cont.			
GCCS I3	RCP	MTC					0.893	10/03	0.937	10/04	Cont.	Cont.			
	RCP	G2 Technol	ogy				0.628	10/03	0.596	10/04	Cont.	Cont.			
TCAC	RCP	BTG					0.890	10/03	0.904	10/04	Cont.	Cont.			
	RCP	MTC		0.260	0.260	10/02	0.316	10/03	0.261	10/04	Cont.	Cont.			
JSTARS	WR	SPAWAR		0.100	0.100	11/02	0.338	01/04	0.483	01/05	Cont.	Cont.			

							DATE:							
Exhibit R-3 Cost Analysis									F	ebruary 200)4			
APPROPRIATION/BÚDGET /	ACTIVITY		PROGRAM EL	EMENT			PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational	Svs Dev		0206313M Ma	rine Corps C	Communication	ons Sys	C2272 Intel	lligence C2	Systems					
		CSC/MDA					0.100				Cont.	Cor	nt.	
TRSS-PIP	RCP	OSEC		0.201	0.000		0.200	12/03			Cont.	Cor	nt.	
TRSS-PIP	RCP	MilleniumTC		0.211	0.000		0.050	12/03	0.214	01/05	Cont.	Cor	nt.	
TRSS-PIP	RCP	NGIT		0.087	0.000		0.220	12/03			Cont.	Cor	nt.	
SR	WR	MTC							1.068	01/05	Cont.	Cor	nt.	
Subtotal Support				17.612	6.464		10.934		14.928		Cont.	Cor	ıt.	
Remarks:				•			•		•		•	•	<u> </u>	
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			Target	
		Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of	
,	& Type	Location		Cost	Cost	Date	Cost	Date		Date	Complete	Cost	Contract	
		MCSC		0.189			0.207		0.215		Cont.	Cor		
		TITAN		1.513			0.201	10/03	0.463		Cont.	Cor		
		IDI		1.515	0.019	12/02	0.024	01/04	0.403		Cont.	Cor		
	RCP	SPAWAR		0.050	0.050	10/03	0.024	01/04	0.023	01/03	Cont.	0.10		
JOTARO	IXOI	OI AWAIX		0.030	0.000	10/03						0.10	,,,	
Subtotal T&E				1.702	1.118		0.231		0.703		Cont.	Cor	nt.	
Remarks:				11102	11110		0.201		0.700		001111	00.		
temarks.														
				•	1	1	1		ı	ı	_	1		
•		Performing		Total		FY 03		FY 04		FY 05			Target	
Tailor to WBS, or System/Ite		Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of	
		Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract	
		NGIT					0.011	01/03	0.018	01/05	Cont.	Cor		
	RCP	MTC		0.166		10/03						0.33	32	
PBD-290 OSD					7.253									
Subtotal Management				0.166	7.419		0.011		0.018		Cont.	Cor	nt.	
Remarks:														
Total Cost					24.129		17.759		32.294		Cont.	Cor	ıt.	

			DATE:
Ext	ibit R-4/4a Schedule Profile/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NU	JMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2272 Intellig	gence C2 Systems

COASTAL BATTLEFIELD RECONNAISSANCE AND ANALYSIS (COBRA) MILESTONE SCHEDULE

SCHEDULE OVERVIEW FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 Total Milestones 4 Q**TR** SD&D Contract Award MS - B Spiral Development A Spiral Dev - B \triangle DT/OA \triangle MS - C Production IOT&E \triangle IOC Tech Insertion Systems Procured System = 1 Ground Station, 2 Payloads AAO = 9 Systems

Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(APPN, BLI #, NOMEN) (U) RDT&E,N	5.535	2.940	9.677	6.390	3.423	1.656	1.110	Continuing	Continuing
(U) PMC BLI# 474700 Intell Supp Eq COBRA	0	0	0	1.210	1.817	3.227	0.250	Continuing	Continuing

			DATE:
Exh	ibit R-4/4a Schedule Profile/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT N	JMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2272 Intelli	gence C2 Systems

COBRA SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
MS B		4Q					
Spiral Development A	3Q	3Q		•			
Spiral Development B			4Q				
DT/OA				1Q			
Procure Long Lead Items				2Q			
MS C				2Q			
Production					1Q		
IOT&E				3Q			
IOC					2Q		
Tech Insertion		3Q					

Exhibit R-4/4a Schedule Profile/Detail

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

RDT&E, N /BA 7 Operational Sys Dev

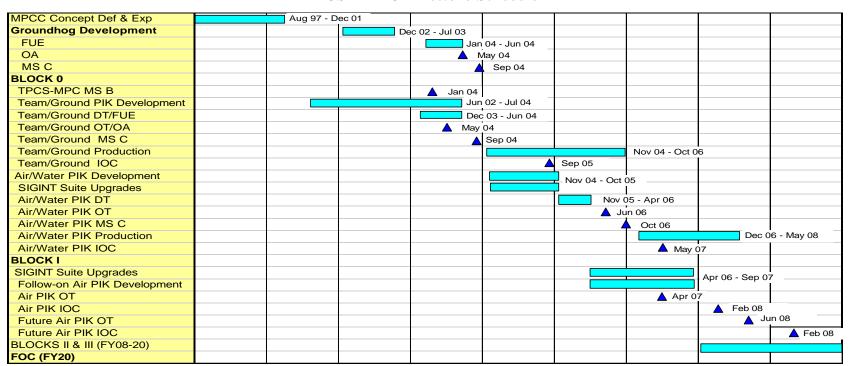
DATE:

February 2004

PROJECT NUMBER AND NAME

C2272 Intelligence C2 Systems

TPCS - MPC Milestone Schedule



Program Funding Summary (APPN, BLI #, NOMEN)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(U) RDT&E,N	2.167	0.474	3.217	2.607	3.499	2.806	1.501	Continuing Continuing	Continuing
(U) PMC BLI# 474700 Intell Sup (TPCS)	0	0	6.360	8.038	7.746	5.936	0.299		Continuing

			DATE:
Exh	ibit R-4/4a Schedule Profile/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT N	JMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2272 Intelli	gence C2 Systems

TPCS-MPC SCHEDULE DETAIL	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
MS B EDM Dev and Demo	1		2Q					
DT/OA		3Q	2Q					
IOT & E		3Q						
MS C			4Q					
Ground/Team PIK IOC				4Q				
Air/Water PIK OT					3Q			
Air/Water PIK MS C						1Q		
Air/Water PIK IOC						3Q		
CH-53 OT						3Q		
CH-53 IOC							2Q	
MV-22 OT							3Q	
MV-22 IOC								2Q

	UNCLASSIFIED											
EXHIBIT R-2	2a, RDT&E Project Just	ification			DATE:		Fobruary 200	24				
RDT&E, N /BA-7 Operational Sys Dev February 2004 PROGRAM ELEMENT NUMBER AND NAME PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME C2273 Air Operations C2 Systems												
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost To Complete	Total Program			
Project Cost	62.275	94.832	99.834	81.526	105.786	31.135	19.923	Cont	Cont			
RDT&E Articles Qty												

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) Air Operations C2 coordinates and plans Navy and Marine air combat operations and interfaces with joint and combined forces air operations. It also interfaces with fire support C2. The systems in this project are used to detect aircraft and missiles, process the detected information, deliver the processed information to the Advanced Tactical Air Command Central (ATACC), and conduct the air battle.
- 1. The Air Defense Communications Platform (ADCP) PIP provides a platform for the AN/TPS-59(V)3 radar and the Tactical Air Operations Module (TAOM) for tactical ballistic missile defense as a JTIDS network user. The ADCP provides a direct interface between the AN/TPS-59 (V)3 to the joint services.
- 2. The Aviation Radar (AN/TPS-59) is a "congressionally mandated" national asset. It is the only fielded ground based sensor which can detect and track Theater Ballistic Missiles at ranges of 400 nautical miles, for 360 degrees up to one million feet in elevation. Funding for this program has moved to Project C3099 within this Program Element (PE) FY04.
- 3. The Common Aviation Command and Control System (CAC2S) will provide a common baseline of equipment, computer hardware, and software required to perform the mission of the Marine Air Command and Control System (MACCS). CAC2S will provide a complete and coordinated modernization effort for the equipment of the MACCS to support its employment in an Operational Maneuver from the Sea (OMFTS) environment. The CAC2S will eliminate the current dissimilar aviation Command & Control systems, and will add the capability for aviation combat direction and air defense functions. CAC2S will be comprised of standardized tactical facilities, hardware, software and will significantly reduce the physical size and logistical footprint of existing MACCS equipment suite. Utilizing common hardware, the CAC2S will be an open architecture system that will migrate to the Defense Information Infrastructure Common Operating Environment (DII COE). Furthermore, CAC2S will execute real time functions of controlling aircraft and missiles, and employing weapon systems against time critical targets.
- CAC2S will provide a capability that allows operators to integrate Marine aviation into joint and combined air/ground operations. CAC2S will provide the tools that perform aviation C2 planning and execution functions in a positive control environment. CAC2S will assimilate the missions and fiscal resources of the Tactical Air Operations Center (TAOM), Tactical Air Command Center and the Direct Air Support Center (DASC) and the Air Defense Communications Platform (ADCP).
- 4. The Composite Tracking Network (CTN), formerly known as Cooperative Engagement Capability (CEC), enables all CTN and CEC equipped, Anti-Air Warfare (AAW) weapons systems in a battle force to operate as a single, distributed AAW weapon system. This is accomplished providing timely sharing of fire control quality sensor data, correlated identification data, and AAW weapons management status. The sensor networking capability of CTN essentially allows forces to have a direct connection to the various sensors supported by forces throughout a battlefield enabling the development of a common understanding of the air situation. CTN consists of common processing units that interface with local and remote sensor data in order to develop a common track database and data communications pieces that enable the connectivity and networking of the sensors and processors. Funding for this program in FY02 and FY03 is found in Project C2278 with this PE.
- 5. The Critical Infrastructure will develop a new capability for video teleconferencing capability via service intranet capabilities.
- 6. The MACCS Sustainment consists of various command and control agencies designed to provide the Aviation Combat Element (ACE) commander with the ability to monitor, supervise and influence the application of Marine aviation assets in support of MAGTF operations. The MACCS Sustainment provides funding to keep these legacy agencies ready, relevant and capable until their functions are replaced by the Common Aviation Command and Control System (CAC2S).
- 7. "SIAP is the product of fused, common, continual, unambiguous tracks of airborne objects within the surveillance area." The Single Integrated Air Picture (SIAP) Systems Engineer Task Force will investigate, research and produce the most cost effective means for producing a SIAP. The SIAP System Engineer Task Force (SETF) is not limited to just material solutions in this effort; all aspects will be considered for recommendation to produce the SIAP including tactics, techniques and procedure changes to Service operations. Funding for this program in FY03 is found in C2270 within this PE.

UNCLASSIFIED								
EXHIBIT R-2a, RDT8	DATE:							
			February 2004					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys		C2273 Air Operations C2 Systems					

9. The Unit Operations Center (UOC) project develops and transitions two Command and Control Imperative Advanced Technology Demonstration (ATDs) (the Expeditionary Integrated Combat Operations Center) and the Joint Tactical Communications ((JT COMMs) ATDs) into various Marine Corps and Joint Engineering and Manufacturing Development (E&MD) efforts. UOC development efforts focus on: Cognitive Task Analysis (CTA); enhanced ergonomic physical design; evaluation of advanced multimedia hardware; integration and networking with advanced development communication systems; and advanced software development to support systems integration and advanced battlefield visualization concepts. UOC developments are tailored to support transition of software and hardware developments as PIPs to the established MAGTF C4I baseline. Unit Operations Center (UOC) will provide a facility and components for the integration of current and planned battlefield automation systems.

It will be, in essence, a "system of systems" designed to optimize the positioning, interaction, and flow of information among the various staff agencies (G-2, G-3, Operations Directorate, etc.) and their automated information systems and between the unit and higher, adjacent or subordinate units or headquarters. The Marine Corps deploys Component/Joint Task Force (JTF/Marine Air Ground Task Force (MAGTF)) command elements throughout the world to fulfill operational requirements, often in joint/combined forces arenas. The UOC is designed in garrison and tactical versions. The tactical version is called the Combat Operations Center (COC) which is an outgrowth of the integrated COC (ICOC), COC-Interim (COC(I)), and the Enhanced COC (ECOC) developments over the last two years. The garrison version is called the Command Center (CC). Funding for this program in FY02 and FY03 is found in C2270 within this PE.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.219	0.097	0.034
RDT&E Articles Qty			
ADCP: Tested and certified software enhancements.	·		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.200	0.094	0.085
RDT&E Articles Qty			
ADCP: Software enhancements to meet ADCP ORD requi	rements.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	1.915	0.000	0.000
RDT&E Articles Qty			
AN/TPS-59: Develop ECPs for software improvements. F	Funding for this program has moved to Project	et C3099 within this PE.	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	1.500	0.000	0.000
RDT&E Articles Qty			
AN/TPS-59: Develop Automatic False Alarm Reduction (I	FAR) software. Funding for this program ha	s moved to Project C3099 within	n this PE.
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	2.100	0.000	0.000
RDT&E Articles Qty			
AN/TPS-59: Investigate Advanced Technologies to incorp	orate into the antenna. Funding for this prog	gram has moved to Project C3099	9 within this PE.

Exhibit R-2, RDTE,N Budget Item Justification

^{8.} Theater Battle Management Core Systems (TBMCS) provides the commander the automated tools necessary to generate, disseminate, and execute the Air Tasking Order (ATO), as mandated by the Chairman, Joint Chiefs of Staff in July 1993. It is an evolutionary acquisition, allowing for the rapid development/fielding of hardware and software to meet today's rapidly advancing technology. It is fielded to all four Marine Tactical Air Command Squadrons (MTACS) and the supporting establishment with Marine Aviation Weapons and Tactics School (MAWTS) and the Battlestaff Training Facility (BSTF) sharing a system.

	UNC	CLASSIFIED		
EXHIBIT R-2	a, RDT&E Project Justification	DATE:		
ADDDODDIATION/DUDGET ACTIVITY	IDDOODAM ELEMENT NUMBER AND	NAME.	February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND I 0206313M Marine Corps Comn		PROJECT NUMBER AND NAME C2273 Air Operations C2 Sys	tome
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	tems
Accomplishment/Effort Subtotal Cost	0.000	0.555	0.000	
RDT&E Articles Qty	0.000	0.333	0.000	
AN/TPS-59: Adjustment for PBD 290. Fundi	ag for this program has moved to Project C300	00 within this DE		
COST (\$ in Millions)	FY 2003		FY 2005	
		FY 2004		
Accomplishment/Effort Subtotal Cost	3.032	4.697	5.189	
RDT&E Articles Qty				
CAC2S: Program management support.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	41.910	53.578	51.862	
RDT&E Articles Qty CAC2S: SDD. Engineering Development Mod	lat (EDM) handware and activious developmen	t design of heat macagains avertons o	nd conduct activizing into quotion of Joint	
levelopmental testing and evaluation and baseline sta		t, design of nost processing system, a	and conduct software integration of Joint I	папца
		EV 0004	EV 0005	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost RDT&E Articles Qty	3.130	3.649	7.646	
CAC2S: System development, GFE, and testing	a in accordance with continued conser interface	polintagration, communications interf	aca/intereperability development	
COST (\$ in Millions)	FY 2003	FY 2004		
,			FY 2005	
Accomplishment/Effort Subtotal Cost RDT&E Articles Qty	0.000	1.834	1.164	
CTN: Software development: Interface Design	Document (IDD) dayslopment for CAC2S or	nd CLAWS interface to CTN		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	6.198	0.000	
RDT&E Articles Qty				
CTN: Development of Engineer Design Mode		EV 200 :	EV 2225	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 0.000	FY 2004	FY 2005	
RDT&E Articles Qty	0.000	0.919	0.000	
CTN: Testing and Evaluation: Developmenta	testing support Cartification of CAC2S and	CLAWS interfaces to CTN		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.530	0.610	
RDT&E Articles Qty	3.000	0.000	5.010	
		I		
CTN: Program management support.				
CTN: Program management support. COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
CTN: Program management support. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 0.000	FY 2004 0.000	FY 2005 1.420	

R-1 SHOPPING LIST - Item No. 182

Exhibit R-2, RDTE,N Budget Item Justification (Exhibit R-2, page 43 of 139)

	UNCLASS	IFIED		
EXHIBIT R-:	2a, RDT&E Project Justification	DATE:		
			February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	C	PROJECT NUMBER AND NAME	4
RDT&E, N /BA-7 Operational Sys Dev COST (\$ in Millions)	0206313M Marine Corps Communicatio FY 2003	rs Sys FY 2004	C2273 Air Operations C2 Sys FY 2005	tems
Accomplishment/Effort Subtotal Cost	0.000	0.000	2.111	
RDT&E Articles Qty	0.500	0.000	2.111	
	for production design. Funding for this effort in FY02 and	1 FY03 is provided under P	Project C2278 within this PE.	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	1.894	1.500	0.000	
DT&E Articles Qty				
CRITICAL INFRASTRUCTURE: VTC Co	op Engineering.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	1,364	0.000	0.000	
RDT&E Articles Qty		0.000	5.600	
	development initiatives which will be compatible with curr	rent DISM systems.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
.ccomplishment/Effort Subtotal Cost	0.022	0.000	0.000	
RDT&E Articles Qty				
MACCS SUSTAINMENT: Test and evaluation	ation on the DASC Airborne SLEP.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
ccomplishment/Effort Subtotal Cost	0.899	0.273	1.452	
RDT&E Articles Qty				
	re upgrades for the TAOM, JTIDS and TACC, DASC.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.290	0.000	0.000	
RDT&E Articles Qty				
MACCS SUSTAINMENT: Program manage	ement support.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	3.123	0.000	0.000	
DT&E Articles Qty				
MACCS SUSTAINMENT: Multi-Source Co	orrelation System software development.		ı	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	2.000	3.193	
RDT&E Articles Qty				
	on for TAOM tech insert and interoperability.		1	

	UNCLASS	IFIED		
EXHIBIT R-2	2a, RDT&E Project Justification	DATE:	February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication		C2273 Air Operations C2 Sy	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.094	1.150	
DT&E Articles Qty				
MACCS SUSTAINMENT: Technology inte	gration efforts for TAOM.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	5,960	7.833	
RDT&E Articles Qty		0.000	1.000	
SIAP: Service System Engineering support to	SIAP System Engineer Task Force.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	1.778	0.000	
RDT&E Articles Qty	0.000	1.770	0.000	
	C2) hardware and software to reflect SIAP changes.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
accomplishment/Effort Subtotal Cost	0.000	1.200	1.115	
RDT&E Articles Qty				
to rae rutiolog aty				
· · · · · · · · · · · · · · · · · · ·	em engineer Support.Funding for this program in FY03 is	provided under Project C2	270 within this PE.	
SIAP: Engineering and analysis for SIAP syst				
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) ccomplishment/Effort Subtotal Cost				
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003	FY 2004	FY 2005	
SIAP: Engineering and analysis for SIAP system COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: USMC TBMCS development.	FY 2003 0.264	FY 2004 0.466	FY 2005 0.437	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) ccomplishment/Effort Subtotal Cost DT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) ccomplishment/Effort Subtotal Cost DT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) ccomplishment/Effort Subtotal Cost	FY 2003 0.264 FY 2003	FY 2004 0.466 FY 2004	FY 2005 0.437 FY 2005	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 0.264 FY 2003 0.000	FY 2004 0.466 FY 2004	FY 2005 0.437 FY 2005	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: MCTSSA TBMCS software support	FY 2003 0.264 FY 2003 0.000	FY 2004 0.466 FY 2004 0.033	FY 2005 0.437 FY 2005 0.035	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: MCTSSA TBMCS software support COST (\$ in Millions)	FY 2003 0.264 FY 2003 0.000	FY 2004 0.466 FY 2004	FY 2005 0.437 FY 2005	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: MCTSSA TBMCS software support	FY 2003 0.264 FY 2003 0.000 FY 2003	FY 2004 0.466 FY 2004 0.033	FY 2005 0.437 FY 2005 0.035 FY 2005	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: MCTSSA TBMCS software support COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty	FY 2003 0.264 FY 2003 0.000 FY 2003	FY 2004 0.466 FY 2004 0.033	FY 2005 0.437 FY 2005 0.035 FY 2005	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: MCTSSA TBMCS software support COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 0.264 FY 2003 0.000 FY 2003	FY 2004 0.466 FY 2004 0.033	FY 2005 0.437 FY 2005 0.035 FY 2005	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: MCTSSA TBMCS software support COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: MCTSSA TBMCS software support COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: Program management support.	FY 2003 0.264 FY 2003 0.000 FY 2003 0.413	FY 2004 0.466 FY 2004 0.033 FY 2004 0.255	FY 2005 0.437 FY 2005 0.035 FY 2005 0.279	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) ccomplishment/Effort Subtotal Cost DT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) ccomplishment/Effort Subtotal Cost DT&E Articles Qty TBMCS: MCTSSA TBMCS software support COST (\$ in Millions) ccomplishment/Effort Subtotal Cost DT&E Articles Qty TBMCS: Program management support. COST (\$ in Millions) ccomplishment/Effort Subtotal Cost	FY 2003 0.264 FY 2003 0.000 FY 2003 0.413	FY 2004 0.466 FY 2004 0.033 FY 2004 0.255	FY 2005 0.437 FY 2005 0.035 FY 2005 0.279 FY 2005	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) ccomplishment/Effort Subtotal Cost DT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) ccomplishment/Effort Subtotal Cost DT&E Articles Qty TBMCS: MCTSSA TBMCS software support COST (\$ in Millions) ccomplishment/Effort Subtotal Cost DT&E Articles Qty TBMCS: Program management support. COST (\$ in Millions) ccomplishment/Effort Subtotal Cost DT&E Articles Qty COST (\$ in Millions) ccomplishment/Effort Subtotal Cost DT&E Articles Qty	FY 2003 0.264 FY 2003 0.000 FY 2003 0.413	FY 2004 0.466 FY 2004 0.033 FY 2004 0.255 FY 2004 7.478	FY 2005 0.437 FY 2005 0.035 FY 2005 0.279 FY 2005 0.2005 0.000	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: MCTSSA TBMCS software support COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: Program management support. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty UOC: Continue engineering and manufacturing COST (\$ in Millions)	FY 2003 0.264 FY 2003 0.000 FY 2003 0.413 FY 2003 0.413 FY 2003 0.000 g development effort of production representative modules FY 2003	FY 2004 0.466 FY 2004 0.033 FY 2004 0.255 FY 2004 7.478 to include UOC Universal FY 2004	FY 2005 0.437 FY 2005 0.035 FY 2005 0.279 FY 2005 0.000 Communications Interface Module (UC) FY 2005	
SIAP: Engineering and analysis for SIAP syst COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: USMC TBMCS development. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: MCTSSA TBMCS software support COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty TBMCS: Program management support. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty UOC: Continue engineering and manufacturing	FY 2003 0.000 FY 2003 0.000 FY 2003 0.413 FY 2003 0.413 FY 2003 0.000 g development effort of production representative modules	FY 2004 0.466 FY 2004 0.033 FY 2004 0.255 FY 2004 7.478 to include UOC Universal	FY 2005 0.437 FY 2005 0.035 FY 2005 0.279 FY 2005 0.000 Communications Interface Module (Uccommunications Interfa	

		UN	ICLASSI	FIED					
EXHIBIT R-2a, RI	T&E Project Justific	cation		D/	ATE:				
							ebruary 2004	1	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEME	-		· Cua		PROJECT NUMBE		ratama	ŀ
RDT&E, N /BA-7 Operational Sys Dev COST (\$ in Millions)	0206313M Marine Corps Communications Sys FY 2003 FY 2004					C2273 Air Ope FY 20		stems	
Accomplishment/Effort Subtotal Cost		0.000		1.644		1.75			ŀ
RDT&E Articles Qty		0.000	·	110-1-	•	1.70			ŀ
UOC: Program Management Support									ļ
COST (\$ in Millions)		FY 200)3	FY 200	04	FY 20	05		
Accomplishment/Effort Subtotal Cost		0.000		0.000		3.79			
RDT&E Articles Qty							_		
UOC: Configuration analysis for CSSE, CE, and FIG	CCS Unit Operations	Centers. Suppor	t wireless techn	ology upgrade, v	web-based tra	ining tool, and rota	ary generator.		
Funding for this effort in FY03 is provided under Project C						-	-		
(U) Total \$		<u>62.275</u>		<u>94.832</u>		<u>99.834</u>			
(U) FY 2004 President's Budget:	65.142	95.971	106.936						
(U) Adjustments from the President's Budget:									
(U) Congressional/OSD Program Reductions									
(U) PBD 290									
(U) Congressional Rescissions									
(U) Congressional Increases	1.364	1.500							
(U) Reprogrammings	-2.598	-1.562	-6.184						
(U) SBIR/STTR Transfer	-1.633								
(U) Minor Affordability Adjustments		-1.077	-0.918						
(U) FY 2005 NAVCOMPT Budget:	62.275	94.832	99.834						
CHANGE SUMMARY EXPLANATION:									
(U) Funding: See Above.									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable. (U) C. OTHER PROGRAM FUNDING SUMMARY:									
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(U) PMC, BLI#462000, ADCP PIP	0.804	0	0	0	0		0	0	0.804
(U) PMC, BLI#464000, ADCP PIP	0	0.275	0.175	0.055	0	0	0	0	0.505
(U) PMC, BLI #463600, AN/TPS-59	11.163	0	0	0	0	0	0	0	11.163
(U) PMC, BLI #465100, AN/TPS-59	0	18.077	24.466	7.461	11.933	0	0	Continuing	Continuing
(U) PMC, BLI #468900, CAC2S	0	0	0	3.899	39.139	41.755	41.905	Continuing	Continuing
(U) PMC, BLI #464000, CEC/CTN	0	0	0.000	22.477	34.840	43.993	68.803	Continuing	Continuing
(U) PMC, BLI #464000, MACCS SUSTAINMENT	4.159	3.993	6.641	11.891	1.870		1.345	0	31.315
(U) PMC, BLI #464000,TBMCS (CTAPS)	1.665	6.443	3.474	3.605	3.628		3.818	Continuing	Continuing
(U) PMC, BLI #463100, UOC	25.241	0	0	0	0		0	0	25.241
(U) PMC, BLI #419000, UOC	0	29.010	35.933	30.109	54.471	96.523	112.784	Continuing	Continuing

Exhibit R-2, RDTE,N Budget Item Justification

(Exhibit R-2, page 46 of 139)

UNCLASSIFIED							
EXHIBIT R-2a, RD	T&E Project Justification	DATE:					
			February 2004				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	•	PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys	5	C2273 Air Operations C2 Systems				

(U) D. ACQUISITION STRATEGY:

- (U) **ADCP**: PM AD has an In Service Engineering Assessment (ISEA) with Crane. As part of the ISEA, Crane is tasked to develop, produce, and implement Engineering Change Proposals, or mods as identified in the new DOD 5000. In this case the Multi-Channel Interface (MCIU) interface to the TAOM (V)4 providing a Joint Tactical Data Link (TADIL J) capability to the TAOM (V)4 is being produced.
- (U) **AN/TPS 59**: Perform research and development for electronic protection and continuing resolution of Diminishing Manufacturing Sources (DMS) as well as replacement of transmitters on the 12 arrays over the FYDP.
- (U) **CAC2S**: The contracting strategy is centered on a family of options that will be exercised from PDRR through production based on contractor performance. The base contract is for PDRR and there will be options for SDD and Production. The PDRR contract is a Cost Plus Fixed Fee for 12 month period. Following the PDRR phase, an option for the SDD phase will be exercised. The ESDD will be Cost Plus Award Fee. After successful completion of SDD, a production option will be exercised. The production contracts will be Firm Fixed Price Successive Targets (Modified).
- (U) CRITICAL INFRASTRUCTURE: The program will be executed under Government Works contract by evaluating proposals that will be compatible with DVS-G and service programs.
- (U) **MACCS SUSTAINMENT**: The Direct Air Support Central (Airborne) Abbreviated Acquisition Program is utilizing a sole-source strategy with Computing Devices Canada, an owned subsidiary of General Dynamics, for procurement of Communications Distribution System equipment. Prototype development and system integration will be conducted by Naval Surface Weapons Center, Crane, IN.
- (U) CTN: The USMC's CTN acquisition strategy is to participate in the USN's program procurement and testing, making necessary modifications to support the Marine Corps' requirement.
- (U) SIAP is a systems engineering effort that will be utilized to reduce risk and increase interoperability for legacy and future C4ISR systems.
- (U) **TBMCS**: TBMCS is an ACAT 1AC, USAF Program with joint interest/oversight. It was mandated by the Chairman, Joint Chiefs of Staff in July 93 for Air Tasking Order (ATO) Interoperability among all Services. The USMC will not be letting any competitive contracts for TBMCS, but following the USAF lead, utilizing USAF TBMCS contracts and fielding only the joint modules of TBMCS. As USMC unique requirements are identified and funded, they will be provided to the USAF (to include funding) for inclusion within TBMCS utilizing the USAF cost plus fixed fee contract.
- (U) **UOC**: The UOC COC is a Competitively Awarded Contract for design (cost type) and FFP production options.

UNCLASSIFIED							
EXHIBIT R-2a, RDT	DATE:						
			February 2004				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys		C2273 Air Operations C2 Systems				

(U) E. Major Performers:

- (U) AN/TPS-59 Lockheed Martin Corp., Syracuse, NY. FY02 awarded Jan 02 for the AN/TPS-59 program to develop ECPs to incorporate electronic protection and new transmitters for the antenna and to initiate ECP false alarm adaption software. FY03 contract with LMC in Mar 03 to develop ECPs for software and hardware improvements.
- (U) AN/TPS-59 Sensis Corp., DeWitt, NY. FY02 awarded Jan 02 for the engineering, analysis, and technical support for AN/TPS-59 program, on such efforts as National Systems Cueing, Mission Planner, and Remote Environmental Simulator (RES) Obsolescence Evaluation and Repair and Return. FY03 contract with Sensis Corp. in Mar 03 for technial engineering, manufacturing, and test support for composite materials -risk reduction.

UNIT OPERATIONS CENTER (UOC)

- FY03 General Dynamics Decision Systems, Scottsdale AZ. System development, demonstration, integration, test and evaluation. Apr 03.
- FY04 General Dynamics Decision Systems, Scottsdale AZ. System development, demonstration, integration, test and evaluation. Apr 04.
- FY05 General Dynamics Decision Systems, Scottsdale AZ. System development, demonstration, integration, test and evaluation. Apr 05.
- FY05 SPAWAR, Charleston SC. Support Services. Jan 05

COMMON AVIATION COMMAND AND CONTROL SYSTEM (CAC2S)

- FY03 Raytheon E-Systems, San Diego, CA. System development, demonstration, integration, test and evaluation. May 03.
- FY04 Raytheon E-Systems, San Diego, CA. System development, demonstration, integration, test and evaluation. May 04.
- FY05 Raytheon E-Systems, San Diego, CA. System development, demonstration, integration, test and evaluation. May 05.

COMPOSITE TRACKING NETWORK (CTN)

- FY04 NSWC Crane, IN. Mobility platform integrator. Jan 04
- FY04 Lockheed Martin, Syracuse NY. Radar integration. Jan 04
- FY05 NSWC Crane In. Mobility platform integrator. Jan 05

CRITICAL INFRASTRUCTURE

FY03 Government Works, Headquarters, Herndon, VA. Mar 03

MACCS SUSTAINMENT

- FY03 Northrop Grumman, Woodland Hills, CA. Engineering services. Jan 03
- FY04 Northrop Grumman, Woodland Hills, CA. Engineering services. Jan 04 Engineering services. Jan 04
- FY05 Mission Research. Engineering and software services. Jan 05

SINGLE INTEGRATED AIR PICTURE (SIAP)

- FY04 RNB Technologies, Inc., Stafford, VA Engineering services. Jan 04
- FY05 RNB Technologies, Inc., Stafford, VA Engineering services. Jan 05

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Exhibit R-3 Cost Analysis									uary 2004			
APPROPRIATION/BUDG								NUMBER A				
RDT&E, N /BA 7 Operat				ps Commu		ys		Operations		าร		
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
CAC2S	WR	Center Charleston, SC	6.827			0.600		0.594		Continuing	Continuing	
CAC2S	RCP	Raytheon, San Diego CA	4.645			53.578		51.862		Continuing	Continuing	
CAC2S	RCP	SPAWAR	0.882		02/03	0.847	01/04	0.847	01/05	Continuing		
CAC2S	RCP	EMA, Inc.	0.126								0.126	0.126
ADCP	WR	NSWC Crane, IN	1.853			0.123		0.084		Continuing	Continuing	
MACCS SUSTAINMENT	WR	NSWC Crane, IN	0.695	1.432	04/03	0.866		0.498		Continuing	Continuing	
MACCS SUSTAINMENT	CPFF	Lockheed				1.290	01/04	2.773	01/05	Continuing		
	CPFF	Litton, Woodland, CA	1.531	2.219							3.750	
MACCS SUSTAINMENT		NGIT, Reston, VA		0.024	12/02						0.024	
	RCP	CRC Van Nuys, CA	0.174	0.284							0.458	
MACCS SUSTAINMENT	CPFF	MRC, Ft Worth, TX		0.100	06/03			2.524	01/05	Continuing	Continuing	
MACCS SUSTAINMENT	WR	Hill AFB, Utah		0.121	10/02						0.121	
MACCS SUSTAINMENT	RCP	Mevatec		0.027	03/03						0.027	
	RCP	MCSC, Quantico, VA	11.400			8.938	01/04	8.948	01/05	Continuing	Continuing	
AN/TPS-59	C/CPFF	Lockheed, Syracuse NY	22.946	3.625	03/03	0.555	01/04			Continuing	Continuing	
AN/TPS-59	T&M	Sensis	5.907	1.303	03/03					Continuing	Continuing	Continuing
AN/TPS-59	RCP	MCTSSA, CPndltn, CA		0.020	05/03						0.020	
TBMCS	MIPR	ESC, Hanscom AFB	0.673					0.246	01/05	Continuing	Continuing	
TBMCS	WR	NSWC, Crane, IN		0.359	06/03	0.151	03/04	0.191	01/05	Continuing	Continuing	
CTN	WR	NSWC, Crane, IN	1.955			7.440	01/04	2.060	01/05	Continuing	Continuing	
CTN	RCP	Raytheon	0.365			0.700	01/04	1.000	01/05	Continuing	Continuing	
CTN	RCP	Solipsys	1.031			0.050	01/04	0.215	01/05	Continuing	Continuing	
CTN	RCP	Lockheed	0.482			0.500	01/04			Continuing	Continuing	
CTN	WR	NSWC Dahlgren	0.590		_	0.025	01/04	1.420	01/05	Continuing	Continuing	
UOC	WR	SPAWAR	4.891			0.702	01/04	3.798	01/05	Continuing	Continuing	
UOC	WR	MCSC, Quantico, VA	1.412			0.320	01/04			Continuing	Continuing	
UOC	RCP	General Dynamics				7.478		8.663	01/05	Continuing	Continuing	
CRITICAL INFRASTRUCTURE	RCP	SSC Charleston		0.876	06/03						0.876	
CRITICAL INFRASTRUCTURE		SSC Charleston		1.018	06/03	1.500	01/04				2.518	
Subtotal Product Deve	lopment		68.385	55.785		85.663		85.723		Continuing	Continuing	
Remarks:												

Remarks:

CLASSIFICATION:

Evhibit D. 2 Coot Arabical	-				DATE:			Fal				
Exhibit R-3 Cost Analysis		ITV DDOOD ***						NUMBER A	uary 2004			
APPROPRIATION/BUDG												
RDT&E, N /BA 7 Opera				ps Commu		iys		Operations			T	1
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05	FY 03	FY 03	
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
CAC2S	WR	MCSC, Quantico, VA	0.299	0.200	10/02	0.200	01/04	0.200		Continuing		0.321
CAC2S	RCP	MCSC, Quantico, VA						4.748		Continuing	Continuing	
CAC2S	WR	MCTSSA, CPndltn,CA	0.090	0.007	10/02			1.983	01/05	Continuing		
CAC2S	WR	MCLB Albany GA	0.021								0.021	
CAC2S	WR	3 rd MAW San Diego, CA	0.016								0.016	
CAC2S	WR	NSWC Crane, IN	1.133	0.207	06/03	0.173		0.313	01/05	Continuing	Continuing	
CAC2S	WR	SPAWAR San Diego, CA				2.687	01/04			Continuing	Continuing	
CAC2S	WR	MAGCC, 29 Palms, CA	0.022								0.027	
CAC2S	WR	1st MAW		0.010							0.010	
CAC2S	WR	NAWC, Orlando, FL		0.040							0.040	
CAC2S	WR	NFESC, Port Hueneme		0.130	04/03						0.130	
CAC2S	RCP	MCOTEA	0.250	0.130	01/03	0.130	01/04	0.400	01/05	Continuing	Continuing	
MACCS Sustainment	WR	MCTSSA, CPndltn,CA				0.150	01/04			Continuing	Continuing	
MACCS Sustainment	RCP	NSWC, Crane	0.000	0.070	11/03					0.000		
MACCS Sustainment	WR	MCSC	0.033	0.057	03/03					0.000	0.090	0.033
ADCP	WR	MCTSSA, CPndltn,CA	0.211			0.038	01/04	0.035	01/05	Continuing	Continuing	
ADCP	WR	MCSC, Quantico, VA	0.070			0.030	01/04			Continuing	Continuing	
TBMCS	MIPR	GSA, Bremerton, WA		0.193	10/02					0.000	0.193	0.193
TBMCS	WR	MCTSSA, CPndltn,CA	0.083					0.035	01/05	Continuing	Continuing	
TBMCS	WR	3rd MAW El Toro, CA	0.075			0.015	01/04			Continuing	Continuing	
TBMCS	WR	MCSC, Quantico, VA	0.205	0.050	10/02	0.040	01/04			Continuing	Continuing	
TBMCS	WR	MarForRes NO, LA	0.009	0.020	01/03	0.015	01/04			Continuing	Continuing	
TBMCS	WR	CW, 1st MAW	0.001	0.020	03/03	0.015	01/04			Continuing	Continuing	
TBMCS	MIPR	ESC, Hanscom AFB			01/03	0.273	01/04			Continuing	Continuing	
TBMCS	WR	2nd MAWCh Pt, NC				0.015	01/04			Continuing	Continuing	
CTN	WR	MCLB Albany GA	0.020			0.010	01/04			Continuing	Continuing	
CTN	MIPR	STA	0.432			0.160				Continuing	Continuing	
CTN	WR	CG 1 st MAW	0.014			0.005				Continuing	Continuing	
CTN	WR	MCSC, Quantico, VA	0.085			0.040				Continuing	Continuing	
DISM	WR	NSWC, Dahlgren, VA		0.075	06/03					· · · · · · · · · · · · · · · · · ·	0.075	
DISM	RCP	NSWC, Dahlgren, VA		1.169							1.169	
DISM	WR	MCSC, Quantico, VA		0.120	06/03						0.120	
Subtotal Support Remarks:			3.069	2.503		3.996		7.714		Continuing	Continuing	

R-1 SHOPPING LIST - Item No. 182

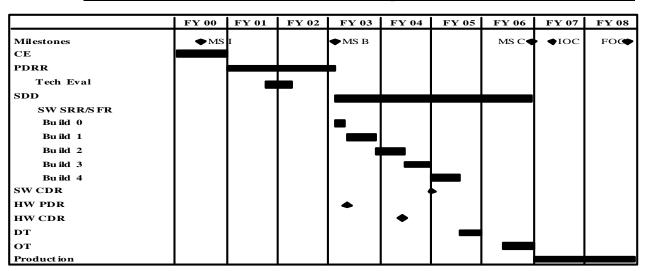
Exhibit R-2, RDTE,N Budget Item Justification (Exhibit R-2, page 50 of 139)

CLASSIFICATION:

				DATE:			F-1				
-T AOTIV (T)/	EL ENAENT				IDDO IDOT		uary 2004			
			_								
			ps Commu		iys		Operations			1	
	J										
											Target Value
		Cost	Cost	Date			Cost	Date			of Contract
WR		0.018			0.018	01/04			Continuing	Continuing	
	MCOTEA		0.130								
		0.120	0.120		0.125		0.000		Continuing	Continuing	
		0.130	0.130		0.123		0.000		Continuing	Continuing	
Contract	Performing	Total		FY 03		FY 04		FY 05	FY 03	FY 03	
			EV 03		FY 04		EY 05				Target Value
											of Contract
											or contract
		0.170			0.200	01/01	0.200	01/00	Continuing		
	1	0 199									
		0.100									
		0.501	0.000	01/00	0.487	01/04	0.610	01/05	Continuing		
	ŭ										
							1.730	01/03			
		0.004		01/03	0.100	01/04			Continuing		
VVIX	Mese, Quanties, VII		0.507	01/03						0.507	
									Continuina	Continuing	
		8.748	3.857		5.048		6.397		Continuing	Continuing	
		8.748	3.857		5.048		6.397		Continuing	Continuing	
		Contract Method Activity & Location Method Method Activity & Location Method Method Method Activity & Location Method Met	Contract Performing Activity & PY's Location Total PY's Cost RCP MCTSSA, CPndltn,CA 0.003 WR MCTSSA, CPndltn,CA 0.003 WR DCMC 0.022 WR Port Hueneme 0.018 MCOTEA MCOTEA Contract Performing Activity & PY's Total PY's & Type Location Cost CPFF Logicon 0.484 IDIQ NGIT, Reston, VA 3.535 FFP Mevatec, Crstl City VA 0.479 RCP KCI 0.199 RCP MKI 0.591 IDIQ Logicon 0.591 IDIQ Logicon 3.396 FFP Mevatec, Crstl City VA 0.064	Conal Sys Dev 0206313M Marine Corps Commun Contract Performing Activity & Location Total PY's FY'03 Cost RCP MCTSSA, CPndltn,CA WR WR MCTSSA, CPndltn,CA 0.003 WR DCMC 0.022 WR Port Hueneme 0.018 MCOTEA MCOTEA 0.130 Contract Performing Activity & PY's FY'03 Cost Cost Cost Cost CPFF Logicon 0.484 0.035 IDIQ NGIT, Reston, VA 3.535 2.957 FFP Mevatec, Crstl City VA 0.479 0.027 RCP Humphreys, Orange, CA 0.199 0.203 RCP MKI 0.060 IDIQ Logicon 0.591 IDIQ Logicon 3.396 FFP Mevatec, Crstl City VA 0.064	Contract Performing Method Activity & Prys Fy 03 Award FY 03 Award & Type Location Cost Cost Date RCP MCTSSA, CPndltn,CA Date MCTSSA, CPndltn,CA Date WR MCTSSA, CPndltn,CA 0.003 WR WR DCMC 0.087 WR WR DCMC 0.018 0.130 0.130 D.130 WR Port Hueneme 0.018 FY 03 Award MCOTEA 0.130 0.130 Date Contract Performing Method Activity & Prys Fy 03 FY 03 Award & Type Location Cost Cost Date Date CPFF Logicon 0.484 0.035 06/03 IDIQ NGIT, Reston, VA 3.535 2.957 06/03 FFP Mevatec, Crstl City VA 0.479 0.027 03/03 RCP Humphreys, Orange, CA 0.099 0.203 05/03 RCP MKI 0.060 01/03 IDIQ Logicon 0.591 0.064	Dev Dev	Contract Performing Cost	PROGRAM ELEMENT PROGRAM ELEMENT PROJECT NUMBER AI C2273 Air Operations C2273 Air Operations FY 04 Award FY 04 Award FY 05 Date Cost	PROGRAM ELEMENT Q206313M Marine Corps Communications Sys PROJECT NUMBER AND NAME C2273 Air Operations C2 System FY 04 FY 05 Award FY 04 Award FY 05 Award Cost Date Co	PROGRAM ELEMENT Q206313M Marine Corps Communications Sys Program P	PROGRAM ELEMENT O206313M Marine Corps Communications Sys C2273 Air Operations C2 Systems

		DATE:
Exhibit R-4/4a		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Systems Development	0206313M Marine Corps Communications Sys	C2273 Air Operations C2 Systems

CAC2S Macro Program Schedule



Program Funding Summary (APPN, BLI #, NOMEN)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Comr Total Cost
(U) RDT&E,N, C2273	48.072	61.924	64.697	31.125	63.890	11.915	8.623	Continuing Continuing
(U) PMC, BLI# 468900, CAC2S	0.000	0.000	0.000	3.899	39.139	41.755	41.905	Continuing Continuing

t R-4/4a						DATE:	February 2004
PRIATION/BUDGET ACTIVITY , N /BA 7 Operational Systems Development	PROGRAM 0206313M		PROJECT NUMBER AND NAME C2273 Air Operations C2 System				
CAC2S SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone I (FY01)							
Milestone B	1st Qtr						
PDRR (FY01 - FY12)							
SDD	1st Qtr++++	+++++++	+++++++	++++++			
DT			3rd Qtr				
ОТ				3rd Qtr			
Long Lead Items				3rd Qtr			
Milestone C				4th Qtr			
Production					1st Qtr+++	+++++++	+++
IOC					2nd Qtr		
FOC						4th Qtr	

xhibit R-4/4a											February 20		
PROPRIATION/BUDG T&E, N /BA 7 Operati	ET ACTIVITY ional Systems Develo	pment		PROGRAM ELEMENT 0206313M Marine Corps Communications Sys							PROJECT NUMBER AND NAME C2273 Air Operations C2 Systems		
			C	CTN									
	Fiscal Year	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10			
		1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4 1	2 3	4 1 2 3	4		
	Milestones Phases Concept & Tech Sys Dev & Demo DT IOT&E Production Delivery USN CEC CAC2S	MS A	Block 2 MS 2	Gck 2 Award	Block DT/O	2 Block 2 S CFRP OT	IOC ◆			FOC	FOC \$\leftrightarrow\$		
gram Funding Summar	<u>:y</u>	ı	FY 2003	FY 2004	FY 2005	FY 2006	6 FY 20	007 FY 20	ากร	FY 2009	To Comr	Total Cos	
N, BLI #, NOMEN)			1 1 2003	1 1 2004	1 1 2003	1 1 2000	1120	<u> </u>	,00	1 1 2003	10 COME	10101 008	
RDT&E,N, C2278			7.727	0.000	0.000	0.000) 0.0	0.0	000	0.000	0.000	7.72	
RDT&E,N, C2273			0.000	9.481	5.305			339 1.3		0.849	Continuing		
OMC DI 1# 464000 CTN			0.000	0.401	0.000	0.230	, ,,,	1.0	,52	0.0-10	Sommany	Johnnann	

68.803 Continuing Continuing

0.000

0.000

0.000

22.477

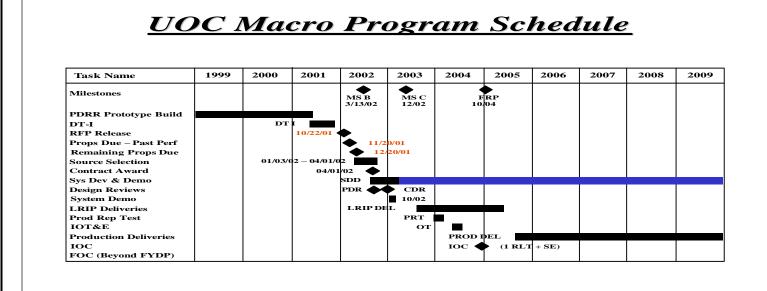
34.840

43.993

(U) PMC, BLI# 464000, CTN

hibit R-4/4				DATE: February 2004				
	FION/BUDGET ACTIVITY A 7 Operational Systems Development	PROGRAM 0206313M	ELEMENT Marine Corp	PROJECT NUMBER AND NAME C2273 Air Operations C2 System				
	CTN SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
	Milestone A (1st Qtr FY02)							
	Concept & Technology Development	1st Qtr FY0	2++++++					
	Milestone B		3rd Qtr					
	System Development and Demonstration	2nd Qtr+++	++++++					
	DT		3rd Qtr++++	+++++				
	IOT&E				1st Qtr			
	Milestone C				2nd Qtr +++	+++++++	+++++++	-+
	Production				1st Qtr++++	++++++		
	Delivery					3rd Qtr+++	++++++++	++
	IOC						3rd Qtr	

		DATE:
Exhibit R-4/4a		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Systems Development	0206313M Marine Corps Communications Sys	C2273 Air Operations C2 Systems



Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(APPN, BLI #, NOMEN)									
(U) RDT&E,N, C2270	9.939	0.000	0.000	0.000	0.000	0.000	0.000	0	9.939
(U) RDT&E,N, C2273	0.000	9.122	14.219	15.720	22.954	10.770	6.256	Continuing	Continuing
(U) PMC, BLI# 463100, UOC	25.241	0.000	0.000	0.000	0.000	0.000	0.000	0	25.241
(U) PMC, BLI# 419000, UOC	0.000	29.010	35.933	30.109	54.471	96.523	112.784	Continuing	Continuing

it R-4/4a DPRIATION/BUDGET ACTIVITY	PROGRAM	ELEMENT	PROJECT NUMBER AND NAME				
E, N /BA 7 Operational Systems Development	0206313M	Marine Cor	C2273 Air Operations C2 Systen				
UOC SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone B (2nd Qtr FY 02)							
System Development and Demonstration	1st Qtr++++	+++++++	++++				
IOT&E		2nd Qtr					
Milestone C	1st Qtr						
LRIP Deliveries	3rd Qtr+++-	+++++++	++++				
IOC		4th Qtr					
Full Rate Production			1st Qtr				
Production Deliveries			3rd Qtr +++	+++++++	-++++++	+++++++	+++++
Hardware/Software Development	3rd Qtr +++++++++++++++++++++						+++++
Engineering Support Services			3rd Qtr +++	+++++++	+++++++	+++++++	+++++

	UNCLASSIFIED													
EXHIBIT R-2a, RD7	&E Project Justi	fication			DATE:									
							February 200	4						
APPROPRIATION/BUDGET ACTIVITY	TIVITY PROGRAM ELEMENT NUMBER AND NAME							PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev	0206313M M	arine Corps	Communication	ons Sys	C2274 Intelli	gence C2 Wa	rfare System	S						
								Cost To	Total					
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program					
Project Cost	8.142	12.965	8.136	5.437	4.527	4.222	4.608	Cont	Cont					
RDT&E Articles Qty														

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) Command and Control (C2) Warfare Project includes the following tactical electronic intercept, direction finding, and electronic attack systems:
 - 1. The Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES) is used to process, sort, analyze, display and correlate electronic surveillance and electronic attack data collected by EA-6B aircraft and maintains the Tactical Electronic Orders of Battle.
 - 2. The Mobile Electronic Warfare Support System, Product Improvement Program (MEWSS-PIP) will be used to collect and process communication and non-communication signals and provide electronic attack capability from a mobile ground platform.
 - 3. Team Portable Collection System (TPCS) upgrade is a semi-automated, team transportable signals intelligence system that provides communications intercept, radio direction finding analysis and reporting to the Marine Air Ground Task Force (MAGTF) Commander.
 - 4. The Radio Reconnaissance Equipment Program (RREP) provides the Radio Battalions, Radio Reconnaissance Platoons (RRP) with mission unique Signals Intelligence/Ground Electronic Warfare (SIGINT/EW) Equipment suites. Continuing with an evolutionary acquisition approach, the third suite RREP-SS-2 will provide the RRPs with the capability to conduct SIGINT/EW operations in support of Marine Air Ground Task Force (MAGTF) Commanders during advance force special operations, and other special purpose missions where the use of conventional Radio Battalion assets are not feasible. RREP-SS-2 is a rugerized, modular; man packable system specifically designed utilizing emerging NDI/COTS/GOTS technology for RRP operations, particularity those conducted under the most austere conditions. The RREP SS-3 will be fielded in the 4th Qtr FY04. It will have the added capability to intercept advanced wireless targets identified by the NSA to be operated from remoted positions. SS-3 will extend its life cycle to six years and product improvements will focus on new software and DSP technologies which may be incorporated into the existing system. This approach allows the program to utilize the major components for the entire life-cycle while still keeping pace with emerging Threats and technologies.
 - 5. CESAS (FLAMES) The Communication Emitter Sensing and Attacking System (CESAS) will be a system of COTS/GOTS designed to support the MAGTF Commander in conducting operations. It will provide the capability to effectively sense/detect and attack, through the use of electromagnetic energy, the enemy's communication systems in support of the Commander's Command and Control Warfare plan. The system will replace for the existing AN/ULQ-19 and will assume the mission of sensing and denying the enemy the use of the electromagnetic spectrum, thereby disrupting his command and control system. Though primarily HMMWV-mounted, CESAS will also be capable of both seaborne and airborne deployment and employment, enhancing the Radio Battalion's ability to support Operational Maneuver from the Sea. The CESAS shall provide the capability to operate within the bandwidth of 20 to 1500 MHz (Threshold)k 2MHz to 2500 MHz (Objective) against enemy emitters that use modern modulation schemes.

	UNCLASSIFIED		
EXHIBIT R-2a,	RDT&E Project Justification	DATE:	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	DDO IECT NILIN	February 2004 MBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys		igence C2 Warfare Systems
(U) B. ACCOMPLISHMENTS/PLANNED PROG	<u> </u>	•	•
COST (\$ in Millions)		Y 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.248
RDT&E Articles Qty	0.000	0.000	0.240
· · · · · · · · · · · · · · · · · · ·	pment items to include Antenna and MCREWS Training equipment	 t.	<u> </u>
COST (\$ in Millions)		Y 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.321
RDT&E Articles Qty	0.000	0.000	0.021
CESAS - Research and Development Directed	Energy and Directional Attack Antennas.		
COST (\$ in Millions)		Y 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.100
RDT&E Articles Qty			
CESAS - Begin Research and Development of	training materials and training documentation.		
COST (\$ in Millions)	FY 2003 F	Y 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.150
DT&E Articles Qty			
CESAS - Research and Devlopment of Training	g Equipment; MCREWS modification for USQ-146 real time simul	lation equipment to	o provide a "Miles Gear" type
application for Electronic Attack equipment and Victi	m Receiver interface.		
COST (\$ in Millions)	FY 2003 F	Y 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.300
RDT&E Articles Qty			
CESAS - Program support and documentation	Development and Maintainance.		_
COST (\$ in Millions)	FY 2003 F	Y 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.047
RDT&E Articles Qty			
CESAS - Program Management Support.			
COST (\$ in Millions)		Y 2004	FY 2005
Accomplishment/Effort Subtotal Cost	1.100	0.404	0.000
· · · · · · · · · · · · · · · · · · ·			·
RDT&E Articles Qty MEWSS PIP: Developmental testing and Ope	-		
MEWSS PIP: Developmental testing and Ope COST (\$ in Millions)	FY 2003 F	Y 2004	FY 2005
	FY 2003 F	Y 2004 1.000	FY 2005 1.000

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EXHIBIT R-2a,	RDT&E Project Justification	DATE:	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	DDO IECT NI IN	February 2004 MBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communicati		igence C2 Warfare Systems
RDTaL, N7DA-7 Operational dys bev	0200313M Marine Corps Communicati	OZZI + IIIICII	igence oz wanare oystem.
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	3.144	3.400	0.000
RDT&E Articles Qty		V. 190	3.333
MEWSS PIP: ELINT System enhancements.		!	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.828	4.000	2.210
RDT&E Articles Qty			
MEWSS PIP: Operational Readiness enhance	ments.		<u>. </u>
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.159	0.000	0.000
RDT&E Articles Qty			
TPCS Upgrade: SSCC.SC, Engineering and t	echnical support	1	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.290	0.000	0.000
RDT&E Articles Qty			
TPCS Upgrade: System Engineering and Tech	hnical Assistance (SETA) (CSC).		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.100	0.000	0.000
RDT&E Articles Qty			
TPCS Upgrade: Software upgrades/system en	hancements.		<u>. </u>
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.414	0.984	0.917
RDT&E Articles Qty			
TERPES: Continue research on COE complia	nce, research for Tactical Network Protocol (TNP), rese	earch of interface software for	Integrated Broadcast
	(BS) to allow TERPES to receive joint common messag		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.800	1.466	1.308
RDT&E Articles Qty			
-	diantions hardware and software integration research is		J f:1:4:1-4-

TERPES: Research for TERPES software applications, hardware and software integration research, investment for R&D equipment and facilities; work to integrate the newer integrated broadcast receivers (IBR)s (Joint Tactical Terminal (JTT) and research on TADIL J). Advanced Communications Suite, Sensitive Comparatmented Information (SCI) workstation, and system accreditation.

		UNC	LASSIFII	ED		
EXHIBIT R-2a, RDT&I	E Project Justific	cation			DATE:	February 200
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMI 0206313M Mar			s Sys		IUMBER AND NAME elligence C2 Warfare System
	Ţ					
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost		FY 200 0.561			2004)39	FY 2005 0.753
RDT&E Articles Qty		0.301		1.0	133	0.733
TERPES : Research TERPES software to provide impraircraft, (TEPP/TSP application); improve overall system perfinteroperability requirements and solutions for the EA-6B missing the statement of the teacher of the tea	ormamance (Tactio	al Data Correlat	tion, etc); conti	nue to resear	ch COE 4.X	
COST (\$ in Millions)		FY 200)3	FY 2	2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.212	2	0.3	861	0.370
RDT&E Articles Qty						
TERPES: Program Management Support.						
COST (\$ in Millions)		FY 200			2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.134		0.0	000	0.000
RDT&E Articles Qty	1 111 (00.2)					
RREP: Integration GOTS/COTS electronic attack (EA) capability (SS-3).					
COST (\$ in Millions)		FY 200 0.000		FY 2 0.3	2004	FY 2005
Accomplishment/Effort Subtotal Cost RDT&E Articles Qty		0.000	<u>'</u>	0	511	0.412
RREP: Research and development of the RREP SS-3	DID					
(U) Total \$. 11	<u>8.142</u>		<u>12.</u>	<u>965</u>	<u>8.136</u>
(U) PROJECT CHANGE SUMMARY:	FY2003	FY2004	FY2005			
(U) FY 2004 President's Budget: (U) Adjustments from the President's Budget: (U) Congressional/OSD Program Reductions (U) Congressional Rescissions	7.987	9.727	5.655			
(U) Congressional Increases		3.400				
(U) Reprogrammings	0.340		2.528			
(U) SBIR/STTR Transfer	-0.185					
(U) Minor Affordability Adjustments		-0.162	-0.047			
(U) FY 2005 President's Budget: CHANGE SUMMARY EXPLANATION: (U) Funding: See Above. (U) Schedule: Not Applicable. (U) Technical: Not Applicable.	8.142	12.965	8.136			

		UNC	LASSIFII	ED					
EXHIBIT R-2a, RDT&	E Project Justific	ation		[1	DATE:				
						Fe	ebruary 2004	ı	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMI	ENT NUMBER A	ND NAME		PROJECT NUMBE	R AND NAME			
RDT&E, N /BA-7 Operational Sys Dev	0206313M Mar	ine Corps Co	mmunication	s Sys	C2274 Intellige	nce C2 Warf	are Systems	3	
(U) C. OTHER PROGRAM FUNDING SUMMARY:A16									
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(U) PMC BLI 463600 Modification Kits MEWSS	25.213	20.633	0.000	1.349	0.511	0.000	0.000	Continuing	Continuing
(U) PMC BLI 474700 Intell Suppt Eq RREP	2.742	0.000	0.000	4.194	0.000	0.000	4.228	0.000	11.164
(U) PMC BLI 474700 Intell Suppt Eq TPCS-MPC	0.000	0.000	6.360	8.038	7.746	5.936	0.299	0.000	28.379
(U) PMC BLI 474900 TPCS UPGRADE	6.781	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.781

0.000

0.984

3.022

4.170

0.000

4.079

3.182

0.475

0.000

1.375

0.000

0.000

10.195

13.553

(U) Related RDT&E:

(U) (U) PE 0305885G (Tactical Cryptologic Program)

(U) PMC BLI 463600 FLAMES (CESAS)

(U) PMC BLI 474900 Mod Kits INTEL TERPES

(U) D. ACQUISITION STRATEGY TERPES: The acquisition of components for the TERPES upgrade refreshes will maximize the use of existing equipment, NDI/COTS/GOTS/GFE equipment and software. The integration effort for TERPES hardware and software will be accomplished through the TERPES System Support Activity, Naval Air Warfare Center - Weapons Division, Pt. Mugu, CA. These efforts are directed by the Program Manager for Intelligence Systems, MAGTF C4ISR Product Group, Marine Corps Systems Command. This strategy accomplishes several goals: standardization of equipment and software; use equipment that can be acquired and fielded quickly, reduction of logistics requirements, and reduce cost of software maintenance.

2.828

0.000

1.163

2.470

- (U) D. ACQUISITION STRATEGY MEWSS PIP: The MEWSS PIP initiates Marine Corps Systems Command-administered contracts as follow-on to the Army CECOM Intelligence and Electronic Warfare Common Sensor (IEWCS) contract used for development/fielding of the three MEWSS PIP LRIP vehicles. These contracts are sole source to Lockheed Martin Systems Integration in Owego, New York.
- (U) D. ACQUISITION STRATEGY TPCS: The ever-increasing sophistication of target threats and information technology necessitates an evolutionary acquisition approach. TPCS will make incremental improvements through maximum use of COTS, GOTS and NDI. The contract is a Contract Cost Plus Fixed Fee.
- (U) D. ACQUISITION STRATEGY RREP: The RREP will incorporate and integrate cutting edge technologies through the use of Commercial off the Shelf (COTS) components to include Marine Corps Common Hardware components and Government off the Shelf (GOTS) DII COE compliant software. Contract is Cost Plus Fixed Fee (CPFF).
- (U) D. ACQUISITION STRATEGY CESAS: Due to the technical maturity of the equipment available, coupled with the relative low risk of the program, an Abbreviated Acquisition Program (AAP) was granted. System engineering will be performed by SPAWAR, Charleston, SC. AN/USQ-146 systems will be acquired via a sole source contract between Rockwell Collins and MCSC. Configuration of equipment to meet required operation capabilities will be performed by Rockwell-Collins prior to delivery. Required modification kits will be developed by Rockwell-Collins as part of the AN/USQ-146 purchase, using designs developed by SSCC. Fielding will be conducted using support from Rockwell-Collins, a support contractor and SSCC. Integrated Logistics Support (ILS) planning and life cycle supportability will be implemented by MCSC and MARCORLOGBASES, Albany GA. Contractor Logistics Support will be used for depot support of the system.

	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E	Project Justification	DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2274 Intelligence C2 Warfare Systems

(U) E. MAJOR PERFORMERS:

MOBILE ELECTRONIC WARFARE SUPPORT SYSTEM, PRODUCT IMPROVEMENT PROGRAM (MEWSS-PIP)

FY03 LOCKHEED MARTIN, Owego NY Provide funds for software enhancements and P3I support. Nov 02

SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Software enhancements and P3I. Nov 02

SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Legacy Upgrades. Jul 03

MCOTEA, Quantico, VA - Provide funds for operational Assessment, Mar 03.

IEWTD, Ft Huachuca, AZ - Provide funds for Developmental Testing Support, Jan03

Penn State Univ, State College, PA - Provide funds for ELINT Enhancements Mar 03

FY04 LOCKHEED MARTIN, Owego NY Provide funds for software enhancements and P3I support. Nov 03

Penn State Univ, State College, PA Funds for ELINT enhancements Nov 03

SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Legacy MEWSS readiness enhancements. Nov 03

FY05 LOCKHEED MARTIN, Owego NY Provide funds for software enhancements and P3I support. Nov 04

SPACE AND NAVAL WARFARE SYSTEMS CENTER (SPAWAR), Charleston, SC. Legacy MEWSS readiness enhancements. Nov 04

TEAM PORTABLE COLLECTION SYSTEM (TPCS) Upgrade

FY03 SPAWAR, Charleston, S.C., Funds for Engineering and Development

Digital Access Corp, DAC, Woodbridge, VA, Funds for Software Development.

MTC, Woodbridge, VA, Funds for Logistical Support.

TACTICAL ELECTRONIC RECONNAISSANCE PROCESSING AND EVALUATION (TERPES)

FY03 NAVAL AIR WARFARE CENTER (NAWC), Pt Mugu CA. Provide funds for hardware and software integration research.

LOCKHEED MARTIN, Denver CO. Provide funds for research on TERPES software to provide improvement in the interfaces and interoperability with the EA-6B and mission planning systems.

CALIFORNIA MICROWAVE, Woodland Hills CA. Provide funds for Common Operating Environment (COE) compliance, hardware; software configuration management, and software testing.

FY04 NAVAL AIR WARFARE CENTER (NAWC), Pt Mugu CA. Provide funds for hardware, software and integration research.

LOCKHEED MARTIN, Denver CO. Provide funds for research on TERPES software applications to provide improvement in the interfaces and interoperability with the EA-6B and mission planning systems.

CALIFORNIA MICROWAVE, Woodland Hills CA. Provide funds for Common Operating Environment (COE) compliance; research of interface software for Integrated Broadcast Receivers (IBRs).

FY05 NAVAL AIR WARFARE CENTER (NAWC), Pt Mugu CA. Provide funds for hardware, software and integration research.

LOCKHEED MARTIN, Denver CO. Provide funds for research on TERPES software applications to provide improvement in the interfaces and interoperability with the EA-6B and mission planning systems.

CALIFORNIA MICROWAVE, Woodland Hills CA. Provide funds for Common Operating Environment (COE) compliance; research of interface software for Integrated Broadcast Receivers (IBRs).

RADIO RECONNAISSANCE EQUIPMENT PROGRAM (RREP)

FY03 NAVAL SURFACE WARFARE CENTER, Crane IN. Funds for engineering and program management support for Suite-3. Nov 03

FY04 NAVAL SURFACE WARFARE CENTER, Crane IN. Funds engineering and program management support for Suite-3. Nov 04

FY05 NAVAL SURFACE WARFARE CENTER, Crane IN. Funds engineering and program management support for Suite-3. Nov 05

Exhibit R-2, RDTE,N Budget Item Justification (Exhibit R-2, page 63 of 139)

Exhibit R-3 Cost Analysis					DATE:			Fo	bruary 2	2004		
APPROPRIATION/BUDGET A	CTIVITY	IDDOCD	AM ELEMENT						,		=	
				0		Custom	_	PROJECT NUMBER AND NAME C2274 Intelligence C2 Warfare Systems				
RDT&E, N /BA 7 Operational Cost Categories			Marine Cor	ps Commi	IFY 03	System		CZZ/4 Inte	IFY 05	C2 warrare	Systems	1
Cost Categories	Method	Performing Activity &	Total PY s	FY 03	Award	FY 04	FY 04 Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
MEWSS	CPFF	Lockheed Martin	15.61		11/02	1.000	11/03	1.000	11/04	Continuing		
MEWSS	WR	SPAWAR, S.C	0.000		02/03	4.000	,	0.000	, .	Continuing		
MEWSS	WR	SPAWAR, S.C	0.00		07/03	0.404	11/03	2.210	11/04	Continuing	Continuing	
MEWSS	RCP	PSU/Albany	0.00		05/03	3.400	03/04	0.000	11/01	Continuing	Continuing	
TERPES	RCP	NG0-CAL Mic	0.96		10/02	0.984	10/03	0.917	12/04	Continuing		
TERPES	RCP	Lockheed Martin	1.07		10/02	1.178	10/03	1.021	02/04	Continuing	Continuing	
TERPES	WR	NAWC, Pt. Mugu CA		_	10/02	1.039	10/03	0.753	10/04	Continuing	Continuing	
TERPES	RCP	PRB/COMPTEK	0.09		10/02	0.288	04/04	0.287	04/05	Continuing	J	
RREP	RCP	NSWC, Crane	0.33		02/03	0.200	02/04	0.412	02/05	Continuing	Continuing	
CESAS	WR	SPAWARSYSCEN	0.55	2 0.134	02/03	0.311	02/04	0.412	10/04	Continuing	Continuing	
CESAS	CPFF	Antenna Res, MD						0.240	10/04	Continuing		
CESAS	CPFF	Radio Recon Tech						0.100	10/04	Continuing	Continuing	
CESAS	T&M	RAS Eng Campbell,	24					0.100	10/04	Continuing	J	
Subtotal Product Developm	-	KAS Eng Campbell,	21.33	7.381		12.604		7.419	10/04	Continuing	3	
	ent		21.33	1.301		12.004	'	7.419		Continuing	Continuing	
Remarks: Cost Categories	Contract	Performing	Total	1	IFY 03	1	FY 04		FY 05	1	I	
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
TPCS Upgrade	RCP	DAC, Wdba		0.100	02/03					Continuing	Continuina	
TPCS Upgrade	RCP	MTC		0.290	10/02					Continuing		
TPCS Upgrade	WR	SPAWARSYSCEN	0.04		12/02					Continuing		
TERPES	RCP	NG-IT	0.26		10/02	0.261	10/03	0.270	10/04	Continuing	Continuina	
TERPES	RCP	DAC, Wdbg	0.75		10/02	0.100	10/03	0.100	10/04	Continuing		
CESAS	WR	NG-IT Stafford, VA		0.000				0.300	10/04	Continuing		
Subtotal Support			1.06	4 0.761		0.361		0.670		Continuing		
Remarks:			1 1100		·	0.001	I.	, 0.0.0	1		g	
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
	RCP	Army	0.20									
Subtotal T&E			0.20	0.000		0.000		0.000		Continuing	Continuing	
Remarks:												
Cost Categories	Contract	Performing	Total	EV 02	FY 03	EV 04	FY 04	FY 05	FY 05	Coot to	Total	Torget Value
	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
CESAS	WR	MCSC	COSI	CUSI	Date	CUSI	Date	0.049	10/04	Complete		
Subtotal Management	V V I'X	INICOC	0.00	0.000	1	0.000		0.049	10/04	Continuing		
			0.00	0.000	'I	0.000	1	0.047	<u> </u>	Continuing	Continuing	L
Remarks:	l	T		0.440	.I	42.005	1	0.400	1	Continuir	Cantin!	
Total Cost				8.142		12.965		8.136	L	Continuing	Continuing	

Exhibit 4/4a Sche	dule Profile/Detail	DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2274 Intelligence C2 Warfare Systems

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MEWSS Schedule



	FY03	FY04	FY05	FY06	FY07	FY08	FY09	
IOT&E Deficency Analysis								
IOT&E Fixes								
DT								
Delivery & Training								
MEWSS PIP Op Assessment								
OA Quicklook Report								
Production Decision (MS-C)								
Contractor Logistics Support								
Basing & Fielding Decision								
MEWSS PIP IOC								
MEWSS PIP FOC								
Legacy Repairs & CLS								
Legacy Upgrades								

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Program Funding Summary (APPN, BLI #, NOMEN)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(U) RDT&E,N	5.472	8.804	3.210	0.461	0.000	0.000	0.000	0.000	17.947
(U) PMC, BLI# 463600 Mod Kits MEWSS	25.213	20.633	0	1.349	0.511	0.000	0.000	Continuing	Continuing

Exhibit 4/4a Sc ATION/BUDGET ACTIVITY /BA 7 Operational Sys Dev	ENT e Corps Communi	cation Syst	ems		DATE: February 2004 PROJECT NUMBER AND NAME C2274 Intelligence C2 Warfare Systems				
MEWSS SCHEDULE DETA	MEWSS SCHEDULE DETAIL			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Developmental Testing		4Q	1Q/2Q						
Operational Assessment			2Q/3Q						
MS C				2Q					
Field System MEWSS PIP 1-3				2Q					
Contractor Logistics Support (C	LS)			2Q					
IOC MEWSS PIP				1Q					
MEWSS Legacy Block 0 and 1	Production			1Q					
MEWSS Legacy Block 0 and 1	Fielding			4Q					
FOC MEWSS PIP			3Q						
MEWSS Legacy Block 2 and 3	MEWSS Legacy Block 2 and 3 Production			3Q/4Q					
MEWSS Legacy Block 2 and 3	Fielding				1Q 30	2			

Exhibit 4/4a Sched	lule Profile/Detail	DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2274 Intelligence C2 Warfare Systems

RREP MILESTONE SCHEDULE

EVENT	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
SS-3 MS-B	3Q								
SS-3 MS-C		4Q							
SS-3 IOC/FOC				4Q	1Q				
SS-3 PIP IOC/FOC						1Q			
SS-4 MS B						2Q			
SS-4 MS C								2Q	
SS-4 IOC/FOC									1Q

<u>Program</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(APPN, BLI #, NOMEN)									
(U) RDT&E,N	0.134	0.311	0.412	0.420	0.421	0.427	0.438	Continuing	Continuing
(U) PMC BLI 474700 Intell Suppt EQ RREP	2.742	0.000	0.000	4.194	0.000	0.000	4.228	0.000	11.164

	Exhibit 4/4a Schedule Profile/Detail								DATE: February 2004					
	TION/BUDGET ACTIVITY 3A 7 Operational Sys Dev	PROGRAM ELEME 0206313M Marine		ication Syste	ems		PROJECT NUMBER AND NAME C2274 Intelligence C2 Warfare Systems							
•	RREP UPGRADE SCHED		FY 2002		FY 2004	FY 2005	FY 2006	FY 2007		FY 2009				
	SS-3 MS B		3Q											
	SS-3 MS-C		- 50	4Q										
	SS-3 IOC/FOC				2-3Q									
	MS-B AND MS-C for SS-3 PIP	will not take place RRF	P will become a s	eries of inde	nendent effo	rts to spiral	in technology	<u> </u>						
	INO BY WIS INC O TO! GO OT II	Will frot take place. Title		01100 01 11100	portaoric one	nto to opiiai		,						

* MS-B AND MS-C will not take place. RREP will become a series of independent efforts to spiral in technology.

EXHIBIT R-2a, RI	T&E Project J	ustification			DATE:								
								February 2004					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT NUM	BER AND NAM	ME		PROJECT NU	MBER AND N	AME					
RDT&E, N /BA-7 Operational Sys Development	0206313M Ma	arine Corps C	ommunicatio	n Systems		C2275 Radio	Systems						
								Cost to	Total				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program				
Project Cost	0.565	8.772	8.670	4.865	4.328	4.222	3.550	Cont	Cont				
RDT&E Articles Qty									!				

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) Joint Tactical Radio System JTRS is a OSD-mandated program a Family of Joint Multi-Channel/Multi-Mode, Software-Defined, Reprogrammable Tactical Radio Systems. Providing high capacity line of sight (LOS) and beyond line of sight (BLOS) plain and secure voice, data, and video while operating in frequency bands from 2 MHz to 2 GHz. Providing network connectivity across the radio frequency (RF) spectrum and providing the means for required tactical digital information exchanges.
- Block 1: Interim Handheld/Manpack and Data Radios. Includes 3 radio systems: the High Frequency Man-pack Radio (HFMR), the Tactical Handheld Radio (THHR), and software upgrades/maintenance for Enhanced Position Location Reporting System (EPLRS) radios.
- Block 2: Ground Vehicular/Rotary Wing, scaleable to 6 Channels (US Army Cluster 1): Expeditionary Maneuver Warfare Air Ground Over the Horizon (EMW A/G OTH) Communications Vehicle (initially replacing systems beyond lifecycle: AN/MRC-138, AN/VRC-83), and C2 platforms that require multiple channels in multiple bands (LAV-C2 (Light Armored Vehicle Command and Control Variant, Unit Operations Center (UOC), and EFV (Expeditionary Fighting Vehicle) formerly AAAV.
- Block 3: Handheld/Man-pack, 1 or 2 Channels (USSOCOM Cluster 2): Multipurpose Handheld and Manpacks (initially replacing systems beyond lifecycle: AN/PRC-68, PRC-104, PRC-113). These radios should be available in FY06-FY07.
- Tactical Elevated Antenna Mast System (TEAMS) is a single HMMWV mounted 100' telescoping antenna mast replacing the two AN/MRC- 142 50' antennas. TEAMS provides a safer more efficient mast to allow up to twice the current height capability to overcome obstructions caused by over head canopy and obstructing ridges which eliminates the need to set up additional relay sites. TEAMS will be employed with AN/MRC-2 then JTRS when the AN/MRC-142 is replaced by JTRS.
- (U) Tactical Satellite Comm Terminal (TSCT)-Lightweight Multiband Satellite Terminal (LMST)- An Air Force program with PM Milsatcom (Army) managing contract with Harris Corp. The LMST is a tri-band SATCOM (Satellite Communications) terminal mounted in transit cases that will augment the current GMF(Ground Mobile Force) SATCOM and at the same time, provide a commercial satellite capability. SHF Replacement (Wideband SHF) This is a DoD (Army lead) Quad-band SHF satellite communications terminal that is intended to replace the current GMF satellite communications terminals. It will be a quad-band, HMMWV mounted terminal capable of taking full advantage of the Wideband Gapfiller satellite constellation. Its mission is to support all USMC satellite communications requirements including MAGTF commanders, First in Command and Control System (FICCS), and MEU deployments. It will provide the USMC with DoD and Allied interoperability.
- (U) MILSTAR Advanced Satellite Terminal (SECURE MOBILE ANTI-JAM RELIABLE TACTICAL TERMINAL (SMART-T)) This terminal operates with MILSTAR compatible communications payloads and transmits an extremely high frequency (EHF) uplink signal and receives a super high frequency (SHF) downlink signal to provide the MAGTF commander with robust, low probability of intercept, jam resistant communications.
- (U) Legacy Communications/Electronics Modifications and Sustainment encompass post production sustainment of fielded tactical communication and networking systems and service life extension programs (SLEP) of aging communications equipment reaching the end of their lifecycle. The post production sustainment provides necessary engineering and logistic support to maintain the existing operational capability above threshold operational readiness. The support provides equipment specialists, configuration management, supply support coordination and control, depot maintainance control and warranty administration. There are three SLEP/supportability upgrades required for this POM cycle. These are the AN/TRC-170 Troposhperic Scatter Microwave Radio Terminal, the Unit Level Circuit Switch (ULCS) and the AN/PSC-5 "Shadowfire" modification. The AN/TRC-170 provides secure digital trunking between major nodes of the TRI-TAC communications network with a range of over 100 miles and will reach end of service life in FY05. The ULCS (TTC-42, SB-3865 and SB-3614) require sustainment and modifications to continue the operating forces capability until Transition Switch Module (TSM) is fielded. The AN/PSC-5 Mod allows for the fielded AN/PSC-5 to be supported past FY04.
- (U) Radio Battalion Mods DERF funding \$2M. Funds are for Test and Evaluation of the Testbed-Sigint Adaptable Mobile Shelter to include Signal Simulators and Fuel Cells.

EXHIBIT R-2a, RDT&E Project Ju	ustification	DATE:		
Extribit it 2a, its fac i roject of	astinoation	DATE.	February 2004	
APPROPRIATION/BUDGET ACTIVITY PROGRAM EL	EMENT NUMBER AND NA	ME	PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Development 0206313M Ma			C2275 Radio Systems	
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:		Cyclonic	022.0.1144.0.090100	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.237	1.100	1.100	
RDT&E Articles Qty	0.237	1:100	1.100	
JTRS: Migration/Integration Studies and Analysis. Manpack/Hand	held ITRS			
COST (\$ in Millions)	FY 2003	FY 2004	EV 2005	
Accomplishment/Effort Subtotal Cost	0.328	0.598	FY 2005 0.614	
RDT&E Articles Qty	0.326	0.538	0.014	
JTRS: Program Support and Management.				
	EV 2002	EV 2004	EV 2005	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 0.000	FY 2004 3.472	FY 2005 4.555	
RDT&E Articles Qty	0.000	3.412	4.555	
JTRS: Gnd Vehicular Cluster 1 EMD Radio Manufacturing.				
	F1/ 0000	F\/ 000 /	F)/ 0005	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	1.725	1.313	
RDT&E Articles Qty	204) P. 1. 1. 1.0	: I.E. : (DE(OE)		
JTRS: Gnd Vehicular (Cluster 1) Early Operational Assessment (E			FY 2005	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 0.000	FY 2004 0.752	0.844	
RDT&E Articles Qty	0.000	0.752	0.644	
JTRS: Technical and Engineering Support.				
	EV 0000	FV 2004	EV 2005	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 0.000	FY 2004 0.325	FY 2005 0.244	
RDT&E Articles Qty	0.000	0.325	0.244	
JTRS: Contract Advisory and Assistance Services.				
· · · · · · · · · · · · · · · · · · ·	FY 2003	FY 2004	FY 2005	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	0.000	0.550	0.000	
RDT&E Articles Qty	0.000	0.550	0.000	
TSCT (LMST): Integration and update support documentation.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.100	0.000	
RDT&E Articles Qty	0.000	0.100	0.000	
TSCT (LMST): Contract support costs.				
**	EV 0000	FV 2004	EV 2005	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 0.000	FY 2004 0.150	FY 2005 0.000	
RDT&E Articles Qty	0.000	0.100	0.000	
TSCT (LMST): MCTSSA interoperability/DISA on-orbit tests.				
•				
(U) Total \$	<u>0.565</u>	<u>8.772</u>	<u>8.670</u>	

EXHIBIT R-2a, RD	T&E Project Jus	tification			DATE:				
	-					F	ebruary 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELE	_				PROJECT NUM	IBER AND NA	ME	
RDT&E, N /BA-7 Operational Sys Development	0206313M Mari	ne Corps Con	nmunication S	systems		C2275 Radio S	ystems		
(U) PROJECT CHANGE SUMMARY:									ļ
	FY2003	FY 2004	FY 2005						
(U) FY 2004 President's Budget:	0.584	8.881	8.698						
(U) Adjustments from the NAVCOMPT Budget:									
(U) Congressional/OSD Program Reductions	5								
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings	0.010								
(U) SBIR/STTR Transfer	-0.015								
(U) Minor Affordability Adjustment	-0.014	-0.109	-0.028						
(U) FY 2005 President's Budget:	0.565	8.772	8.670						
CHANGE SUMMARY EXPLANATION: (U) Funding: See Above. (U) Schedule: Not Applicable. (U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMARY Line Item No. & Name	/ : FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
	<u></u>								
(U) PMC, BLI# 464300 Jt Tactical Radio Sys	0.000	13.817	26.009	32.418	97.755		73.371	Continuing	Continuing
(U) PMC BLI# 463300 Radio Systems (LMST) (U) PMC BLI# 463300 LEGACY RADIO SYS	4.598 0.000	8.400 0.000	5.223 3.756	0.289 7.182	0.089 10.205		0.000	0.000	18.599
(U) FINIC BLI# 403300 LEGACT KADIO SYS	0.000	0.000	3.730	7.182	10.205	9.253	6.265	Continuing	Continuing
(U) Related RDT&E: Not Applicable									

(U) D. ACQUISITION STRATEGY:

- (U) Tactical Satellite Comm Terminal LMST- The acquisition strategy for the LMST is based on current developmental efforts of both the Army and Air Force to develop full duplex Ka-band satellite capabilites in support of the Wideband Gapfiller satellites. The LMST integration program leverages off the current efforts and integrates the full duplex Kaband capabilites into existing terminals.
- (U) Milstar (SMART-T) The acquisition strategy for the SMART-T is aligned with the lead service's strategy. The Advanced Extremely High Frequency (AEHF) upgrade will increase throughput and provide interoperability between services.

EXHIBIT R-2a, RD	T&E Project Justification	DATE:	
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Development	0206313M Marine Corps Communication Systems		C2275 Radio Systems

(U) JTRS - JTRS is the next generation radio systems to provide required transformational capabilities while leveraging modern technologies to resolve interoperability and lifecycle cost issues. The procurement of JTRS will be blocked by capabilities available at the time of the requirement. Block 1 provides required Handheld/Manpack lifecycle replacements for aging dismounted systems and freeing Receiver-Transmitters (RT) for spare support of ground vehicular systems until Block 2, Ground Vehicular (Cluster 1 JTRS) radio systems can be procured. Also in Block 1, Post Deployment Software Support (PDSS) of Enhanced Position Location Reporting System (EPLRS) will maintain its compatibility with JTRS and reduce its overall lifecycle cost. With JTRS Block 2 and 3, the functional capabilities of today's radios are provided via software. By developing a standardized radio architecture, the same software running in one radio system can be used in radios developed by separate manufacturers, greatly reducing interoperability challenges that have resulted from separate developments. The U.S. Army is beginning procurement of Ground Vehicular radio systems built to the JTRS architecture to provide improved mobile communications support to computer-based command and control systems. These radios will also support Marine Corps requirements for high-capacity, dynamic, mobile, networked communications as the Marine Corps continues to automate its processes. Integration of these radios into C2 platforms, and begin procurement of Ground Vehicular JTRS to replace aging HF Over the Horizon (OTH) (AN/MRC-138) and UHF Air/Ground (AN/VRC-83) radio systems. The integration of JTRS into the EFV will increase its C4I capability and eliminate the cost of retrofitting the EFV for JTRS Life Cycle Cost Reduction. JTRS will reduce development costs for enhancements to future radio system implementations, reduce maintenance support costs by reducing the number of types of radio systems in the inventory, and reduce operating costs through the

(U) E. MAJOR PERFORMERS:

FY04 TSCT (LMST) HARRIS COMM SYS, MELBOURNE, FL K-BAND INTERGRATION, OCT03.

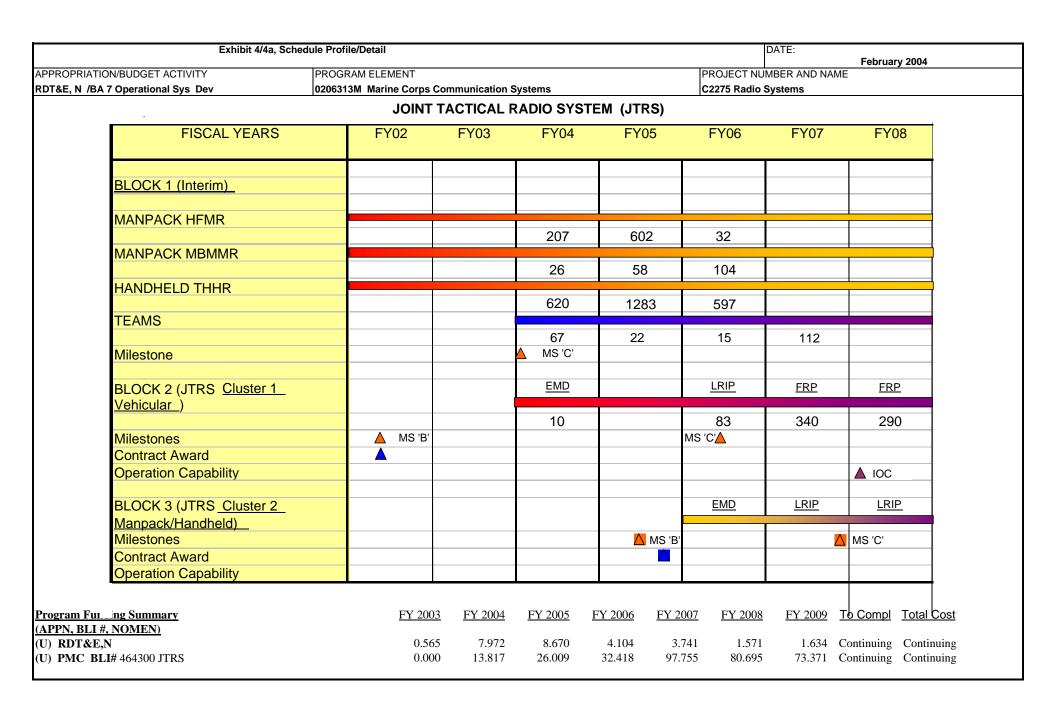
FY03 JTRS: MITER PROGRAM SUPPORT, OCT 02.

FY04 JTRS: BOEING, ANAHEIM, CA,MAJOR H/W SUB, HARRIS, ROCHESTER, NY,BAE, WAYNE NJ. MAJ S/W SUB TRW SEATTLE, WA, OCT 04.

FY05 JTRS: BOEING, ANAHEIM, CA ,MAJOR H/W SUB, HARRIS, ROCHESTER, NY ,BAE, WAYNE NJ. MAJ S/W SUB TRW SEATTLE, WA, OCT

103

							DATE:					
Exhibit R-3 Cost Analysis										bruary 2004		
APPROPRIATION/BUDGET ACTIV			RAM ELEMENT					PROJECT N	-	O NAME		
RDT&E, N /BA 7 Operational Sys		l l	3M Marine Corps (Communicat		S		C2275 Radio				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
LMST Ka-band Integration	FFP	Harris Corp, Florida				0.550	10/03			Continuing	Continuing	
JTRS EMD Radio Manufacturing	CPAF	TBD	0.000	0.000		3.768	06/02	4.811	10/04	Continuina	Continuina	
onto 2002 mana manananan	0.7		0.000	0.000			00,02		10/01	00g		
Subtotal Product Development			0.000	0.000		4.318		4.811		Continuing	Continuing	
Remarks:	•	-	•		•	•		•	•			
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
LMST Program travel	Allot	MARCORSYSCOM				0.025	10/03			0.000		
LMST Technical support	FFP	NGIT, Stafford, VA				0.075	10/03			0.000	0.075	
JTRS TRAVEL	Allot	MARCORSYSCOM		0.020	12/02	0.020	10/03	0.020	10/04		0.060	
JTRS Integration/Migration	FFP	NGIT, Stafford, VA		0.237	10/02	1.105	12/03	1.100	10/04	Continuing	Continuing	
JTRS Tech & Eng Support	FFP	NORTH GRUMMAN				0.752	10/03	0.844	10/04	Continuing	Continuing	
Subtotal Support			0.000	0.257	,	1.977	7	1.964		Continuing	Continuing	
Remarks:			<u>.</u>			•		•				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
LMST Integration tests	WR	MCTSSA				0.080	07/03			0.000	0.080	0.0
JTRS Gnd Veh EOA/DT/OT	WR	MCOTEA				0.100	12/03	0.100	10/04	Continuina	Continuina	
JTRS Gnd Veh EOA/DT/OT	MIPR	PM TRCS, CECOM				1.420	12/03	1.013	10/04	Continuing	Continuing	5.7
LMST DISA on-orbit tests	MIPR	DISA				0.070	05/03		10,01		0.070	
Subtotal T&E			0.000	0.000	1	1.670	,	1.113		0.000	2.783	
Remarks:			0.000	0.000	'	1.070	,	1.113	l	0.000	2.703	
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
	FFP.	NGIT,Stafford, VA		0.308	10/02	0.492	12/03	0.548	10/04	Continuing	Continuing	
						0.315		0.234	10/04	Continuing	Continuing	
JTRS Program Support JTRS Contract Adv & Assist	FFP	TITAN VA						1	1	110		1
JTRS Program Support JTRS Contract Adv & Assist		TITAN VA	0.000	0.200	,	0.90	7	0.702		0.000	1 007	
JTRS Program Support		TITAN VA	0.000	0.308		0.807	7	0.782		0.000	1.897	
JTRS Program Support JTRS Contract Adv & Assist Subtotal Management		TITAN VA	0.000	0.308 0.565		0.807		0.782		0.000		



Exnin	oit 4/4a, Schedule P	rofile/Detail						DATE:	Februa
OPRIATION/BUDGET ACTIVITY E, N /BA 7 Operational Sys Dev		OGRAM ELEMENT 6313M Marine Corp	s Communication	n Systems			PROJECT NU		AME
JTRS SCHEDULE		oo rom marme oorp	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone 'B' (Block 2 C			7 7 2000						
Contract Award (Block	•								
SRR (Block 2 Gnd Veh									
PDR (Block 2 Gnd Veh	•								
IBR (Block 2 Gnd Veh			1Q						
PMR (Block 2 Gnd Ve			1Q						
CDR (Block 2 Gnd Vel	•		2Q						
Early Operational Asse		Gnd Veh)		4Q					
DT/OT (Block 2 Gnd V					4Q				
Milestone 'C' (Block 2 C	Gnd Veh)					2Q			

Exhibit 4/4a, Sched	ule Profile/Detail		DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NU	MBER AND NAME
RDT&E. N /BA 7 Operational Sys Dev	0206313M Marine Corps Communication Systems	C2275 Radio	Systems

TACTICAL SATELLITE COMMUNICATION TERMINAL (LMST)

Fiscal Year	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	Total
Milestone III (procurement)	•										
Contract ECP Award	•										
Terminal Deliveries/Fielding											
IOC			♦								
FOC				•							
Ka-band development											
Integration Fielding											
IOC				•							
FOC							*				

Program Funding Summary (APPN, BLI #, NOMEN)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY2008	FY2009	To Compl	Total Cost
(U) RDT&E,N (U) PMC BLI# 463300 Radio Systems (LMST)	0.000 4.598	0.800 8.400	0.000 5.223	0.000 0.289	0.000 0.089	0.555 0.000	0.743 0.000	0.000 0.000	2.098 18.599

	Exhibit 4/4a, S	Schedule Profile/Detail						DATE:	Februa	ry 2004
	TION/BUDGET ACTIVITY BA 7 Operational Sys Dev	PROGRAM ELEMEN 0206313M Marine C	IT Corps Communication	n Systems			PROJECT NU	I IMBER AND N Systems	AME	19 2001
, ,	LMST SCHEDULE DETAI		FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
	Terminal Deliveries									
	IOC			2ndQtr						
	FOC				4thQtr					
	Ka-band Development				1st-4thQtr					
	Ka-band Integration									
	IOC					1stQtr				
	FOC							4thQtr		

UNCLASSIFIED									
EXHIBIT R-2a, RDT8	&E Project Justificati	on		DATE:		Februar	y 2004		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM EL 0206313M Ma	_			PROJECT NU			trol Systems	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost To Complete	Total Program
Project Cost	2.773	6.449	3.803	4.663	3.913	4.039	3.430	Continuing	Continuing
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) **The Joint Network Management System (JNMS)** is a Combatant Commander, Joint Task Force (CJTF) communications planning and management system. It provides communication planners with the capabilities to conduct high level planning; detailed planning and engineering; monitoring; control and reconfiguration; spectrum planning and management; and security of systems and networks supporting joint operations. The Combatant Commander, CJTF, Joint Communications Control Center (JCCC), and Service component headquarters, System control (SYSCON), will use JNMS to create, modify and manage standardized and automated communications plan (e.g., Annex K). JNMS architecture includes the Marine Corps System Planning Engineering Evaluation Device (SPEED) software.
- (U) **The Transition Switch Module (TSM)** will provide a flexible Unit Level Switch that bridges legacy Tri-Tac switches with current commercial technology, providing maneuver elements with improved voice/data switching, data transport and bandwidth management capabilities. This program will maintain USMC joint interoperability as all Services transition to COTS switching technologies.
- (U) **The Tactical Data Network** (**TDN**) augments the existing Marine Air Ground Task Force (MAGTF) communications infrastructure to provide the commander an integrated data network, forming the communications backbone for Tactical Data Systems (TDS) and the Defense Messaging System (DMS). TDN consists of Gateways (AN/TSQ-222) and Data Distribution Systems (AN/TSQ-228), interconnected with one another and their subscribers via a combination of common user long-haul transmission systems, local area networks (LAN), and switched telephone systems. The TDN PIP provides a smaller and more mobile variant DDS for the Battalion, Secure Wireless LAN capability for enhanced mobility, integrates security interdiction products into the Gateway; and provides critical refresh of non-MCHS network components such as routers, switches, converters, and tactical peripherals.
- (U) **The First In Command and Control System (FICCS)** is an integrated, processor-controlled communications and management system, housed in a S-788/G Lightweight Multipurpose Shelter (LMS), providing secure and non-secure voice and data communications, switching functions, network routing and management, and global broadcast functions. The S-788/G LMS is mounted on a Heavy-variant High Mobility Multipurpose Wheeled Vehicle (H-HMMWV) and can be connected to a quick-erect general purpose tent.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

FY 2003	FY 2004	FY 2005
0.731	0.000	0.000
and upgrade SPEED for DII COI	E LVL 6 compliance.	
FY 2003	FY 2004	FY 2005
0.000	1.382	1.022
applicationa, and SPEED enhan	cements for JNMS, IOW, and EP	LRS.
FY 2003	FY 2004	FY 2005
2.042	0.000	0.000
	0.731 and upgrade SPEED for DII COI FY 2003 0.000 applicationa, and SPEED enhan FY 2003	0.731 0.000 and upgrade SPEED for DII COE LVL 6 compliance. FY 2003 FY 2004 0.000 1.382 applicationa, and SPEED enhancements for JNMS, IOW, and EPI FY 2003 FY 2004

TSM: Development and testing of Engineering Development Models (EDM).

UNCLASSIFIED EXHIBIT R-2a, RDT&E Project Justification DATE: February 2004 APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME 0206313M Marine Corps Communications Sys C2276 Communications Switching & Control Systems RDT&E, N /BA-7 Operational Sys Dev COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.971 1.648 RDT&E Articles Qtv TSM: Development of cellular telephone and Voice over IP (VoIP) capability for integration into TSM EDMs and test for interoperability/operational suitability. FY 2003 FY 2004 FY 2005 COST (\$ in Millions) Accomplishment/Effort Subtotal Cost 0.000 4.096 0.000 RDT&E Articles Qty FICCS: Develop and test the integration of Gigabite Ethernet, and Wireless Telephone technologies into the FICCS platform. FY 2003 FY 2004 COST (\$ in Millions) FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 1.133 RDT&E Articles Qty FICCS: Pursue miniaturization of hardware solutions, colaborate with MCTSSA SIE and conduct Interoperability Testing at JITC. 2.773 6.449 3.803 (U) Total \$ (U) PROJECT CHANGE SUMMARY: FY 2005 FY2003 FY 2004 (U) FY 2004 President's Budget: 4.513 6.381 3.815 (U) Adjustments from the President's Budget: (U) Congressional/OSD Program Reductions (U) Congressional Rescissions (U) Congressional Increases -1.6270.152 (U) Reprogrammings (U) SBIR/STTR Transfer -0.116(U) Minor Affordability Adjustment 0.003 -0.084-0.012(U) FY 2005 President's Budget: 2.773 6.449 3.803 CHANGE SUMMARY EXPLANATION: (U) Funding: See Above. (U) Schedule: Not Applicable. (U) Technical: Not Applicable.

UNCLASSIFIED										
EXHIBIT R-2a, RDT&I	E Project Justification			DATE:		February 2	2004			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEI	MENT NUMBE	R AND NAM	IE	PROJECT NUMI	BER AND NAM	IE			
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marin	ne Corps Com	munication	s Sys	C2276 Commun	ications Switc	hing & Cont	rol Systems		
(U) C. OTHER PROGRAM FUNDING SUMMAR	Y:									
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost	
(U)PMC BLI 463400 Communications Switching and	Control Systems									
JNMS	0.000	5.790	5.274	1.293	1.050	0.650	0.000	0.000	14.057	
FICCS	0.000	9.527	11.288	17.102	1.884	0.768	0.853	0.000	41.422	
JECCS	19.970	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.970	
(U)PMC BLI 468800 Transition Switch Module	0.000	22.902	9.245	47.005	52.913	19.809	2.958	Continuing	Continuing	
(U) Related RDT&E: Not Applicable.										

- (U) D. ACQUISITION STRATEGY JNMS: The JNMS acquisition strategy awards a Cost Plus Fixed Fee (CPFF) contract for the development of the JNMS software, Firm Fixed Price (FFP) options for JNMS software and hardware suites, and a future Time and Materials (T&M) option for production and fielding support. The contracts were awarded using a best
- value, full and open competition source selection process that stresses the use of Commercail Off The Shelf (COTS). If COTS is not available, then Government-off-the-Shelf (GOTS) products will be the next strategy emphasized. A performance specification is used as the technical basis for the JNMS.
- (U) D. ACQUISITION STRATEGY TSM: The TSM acquisition strategy calls for use of FY03 R&D to develop and demonstrate a system of sufficient maturity for production (Milestone C). There will be a single contract award for Low Rate Initial Production (LRIP), testing and full-rate production after successful completion of test. FY04 and FY05 R&D will be used to develop potential cellular telephone and Voice over IP (VoIP) technology for insertion into the TSM Engineering Development Models (EDMs). They will then be tested prior to incorporating them into the TSM production systems.
- (U) D. ACQUISITION STRATEGY FICCS: FICCS will use the evolutionary acquisition strategy with the Block I variant consisting of the initial three JECCS systems. These systems are to be fielded during FY-03, with over \$1M of proposed Office of Naval Research Science and Technology (ONR S&T) and \$80K Extended Literal Battlespace Advanced Concept Technology Demonstration (ELB ACTD) (Wireless) efforts, FICCS Block II will consist of six (6) JECCS production units and nine (9) Operational Shelters, which will include upgrades to emerging hardware/software. Exploring the Block II/III R&D effort, FICCS Block III will achieve the current AAO of fourteen (14) FICCS systems with the production of five (5) JECCS units and five (5) Operational Shelters.

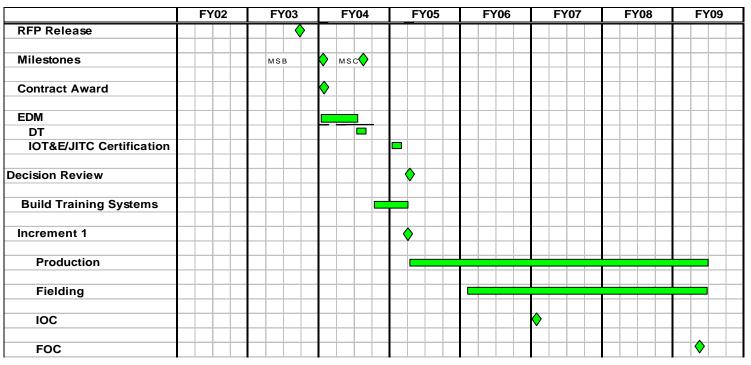
(U) E. Major Performers:

- FY03 (JNMS) NGIT, Winterpark, FL. SPEED enhancements; CECOM Monmouth, NJ, hardware test suite
- FY04 (JNMS) NGIT, Winterpark, FL. SPEED enhancements; CECOM, Momouth, NJ. USMC JNMS adapters, MCOTEA, Quantico, VA, and FMF IOT&E support, JAN 04
- FY05 (JNMS) NGIT, Winterpark, FL. SPEED enhancements; CECOM, Momouth, NJ. USMC JNMS adapters, JAN 05
- FY03/04 (TSM) TBD, Prime Contractor, TSM prototype design/build/test, OCT 02
- FY 04/05 (TSM) TBD, Prime Contractor, Integration and test of VoIP and Wireless technology
- FY04 (FICCS) Darlington, Inc., Wando, SC. Integration and test of Gigabit Ethernet and Wireless Telephone technology, OCT 04
- FY05 (FICCS) Darlington, Inc., Wando, SC. Hardware miniaturization and colaboration/testing with MCTSSA SIE & JITC, OCT 05

<u> </u>												
					DATE:							
Exhibit R-3 Cost Analysis								Febru	ary 2004			
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM ELEMENT			!	PROJECT	NUMBER					
RDT&E, N /BA 7 Operations			ps Commu	nications	Svs					ontrol Syste	ems	
Cost Categories		Performing	Total		FY 03		FY 04		FY 05	1		
(Tailor to WBS, or Sys/Item		Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
JNMS Development	CPFF	CECOM, Monmouth, NJ	0.000	0.114		0.199	01/04	0.154	01/05	Cont.	Cont.	
JNMS SPEED	FFP	NGIT Winterpark, FL	0.500	0.222	01/03	0.602		0.458		Cont.	Cont.	
FICCS	CPFF	GSA	0.000	0.000		3.396	01/04	0.633	10/04	Cont.	Cont.	
TSM	FFP	MCSC, Quantico, Va	0.000	0.884		0.543		0.688	10/04	Cont.	Cont.	
Subtotal Product Dev			0.500	1.220		4.740		1.933		Cont.	Cont.	
Remarks:					l	1			1			1
	•			•			_		•			
Cost Categories		Performing	Total		FY 03		FY 04		FY 05			
(Tailor to WBS, or Sys/Item		Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
JNMS PO Support		MCSC, Quantico, VA/MCTSSA	0.064	0.100		0.081	01/04	0.090		Cont.	Cont.	
JNMS Support Contractor		NGIT, Aquia, VA	0.125	0.230	01/03	0.300		0.320		Cont.	Cont.	
FICCS		Support Contractor	0.000	0.000		0.500		0.300	10/04	Cont.	Cont.	
TSM	FFP	NGIT, Aquia, VA	0.000	0.716		0.304		0.285	10/04	Cont.	Cont.	
Subtotal Support			0.189	1.046		1.185		0.995		Cont.	Cont.	
Remarks:												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
(Tailor to WBS, or Sys/Item		Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
JNMS	WR	MCOTEA/FMF	0.000	0.065	01/03	0.200	12/03	0.000		Cont.	Cont.	
FICCS		MCOTEA	0.000	0.000		0.200	10/03	0.200	10/04	Cont.	Cont.	
TSM	FFP	CECOM, FT Monmouth, NJ	0.000	0.243	10/02	0.000	11/03	0.450	12/04	Cont.	Cont.	
TSM	WR	MCOTEA	0.000	0.199	12/02	0.124		0.225	10/04	Cont.	Cont.	
Subtotal T&E			0.000	0.507		0.524		0.875		Cont.	Cont.	
Remarks:												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
(Tailor to WBS, or Sys/Item		Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Subtotal Management			0.000	0.000				0.000		0.000	0.000	
Remarks:			•			•		•	•	•	•	
Total Cost			0.689	2.773		6.449		3.803		Cont.	Cont.	
					·		·					

CLASSIFICATION:		
		DATE:
Exhibit R-4/4a Schedule Profile/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2276 Communications Switching & Control Systems

TRANSITION SWITCH MODULE



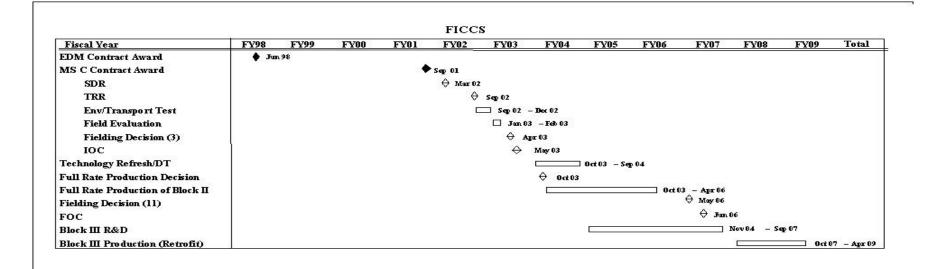
Program Funding Summary (APPN, BLI #, NOMEN)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(U) RDT&E,N	2.042	0.971	1.648	1.671	1.140	0.906	0.921	0.000	9.299
(U) PMC BLI# 468800 Transition Switch Module (TSM)	0.000	22.902	9.245	47.005	52.913	19.809	2.958	Continuing	Continuing

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DPRIA ⁻	Schedule Profile/Detail FION/BUDGET ACTIVITY PROGRAM ELEMENT A 7 Operational Sys Dev 0206313M Marine Corps Co	mmunications Sys	· · · · · · · · · · · · · · · · · · ·	February 2004 PROJECT NUMBER AND NAME C2276 Communications Switching & Control Systems						
	TSM SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
	Contract Award		1Q							
	Engineering Develoment Model Delivery (Qty 6)		3Q							
	Operational Test/Joint Interoperability Certification			1Q						
	Milestone C		3Q							
	Production Option Award			1Q						
	Fielding Begins				1Q					
	Initial Operational Capability					1Q				
	Fielding Ends/Full Operational Capability							2Q		

R-4/4a Schedule Profile/Detail PRIATION/BUDGET ACTIVITY PROG	DAME	ENJENIT	_							I INADE	ED	ID NIAN		DATE: February 2004 PROJECT NUMBER AND NAME						
N /BA 7 Operational Sys Dev 02063				Communi	catio	ons Sys			C2276 Communications Switching & Control Systems											
						DD 4G														
		00		01		JNMS 02		03	04			05		06		07	0			
Task Name	Q1		Q4 C	Q1 Q2 Q3 C	Q4 Q						Q1 C		1 Q1 C		4 Q1		1 Q1 Q2			
JROC Approval		À							1											
Milestone I/II		Λ																		
RFP Release		A																		
JNMS Develop Contract Awd				Δ																
FQT Threshold								Α												
Operational Test (IOT&E)																				
SPEED (JNMS) Modern Contr Aw	rd																			
Milestone C Approval										Δ										
Marine Corps Fielding										М										
									1		1									
Funding Summary				FY 2003	<u>i</u>	FY 2004	FY 20	<u>05</u>	FY 2006	FY	2007	<u>FY 2</u>	<u>800</u>	FY 200	<u>)9</u>	To Compl	Total Co			
LI #, NOMEN)						1.382		22	0.843		0.821		649	0.03			Continui			

ICATION:			DATE:						
4/4a Schedule Profile/Detail RIATION/BUDGET ACTIVITY PROGRAM ELEMENT			PRO IECT	February 2004 PROJECT NUMBER AND NAME					
N /BA 7 Operational Sys Dev 0206313M Marine Corps	Communications Sys	i	C2276 Communications Switching & Control Systems						
JNMS SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005						
Software Pre-release .2									
Functional (Software) Qualification Test (FQT)	4Q								
Initial Operational Test & Evaluation (IOT&E)		2Q							
Milestone C Approval (PEO C3T)		3Q							
USMC Fielding		4Q							

CLASSIFICATION:		
		DATE:
Exhibit R-4/4a Schedule Profile/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communications Sys	C2276 Communications Switching & Control Systems



Program Funding Summary (APPN, BLI #, NOMEN)	FY 2003	<u>FY 2004</u>	FY 2005	FY 2006	FY 2007	<u>FY 2008</u>	FY 2009	To Compl	Total Cost
(U) RDT&E,N	0.000	4.096	1.133	1.024	1.064	1.583	1.859	0.000	10.759
(U) PMC BLI# 463400 CommSwitch& Ctl Sys - FICCS	0.000	9.527	11.288	17.102	1.884	0.768	0.853	0.000	41.422

nedule Profile/Detail /BUDGET ACTIVITY	nunications Svs			NUMBER A	ND NAME	ebruary 200	
FICCS SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005 FY 2006 FY 2007 FY 2				FY 2009
System Design Review							
Test Readiness Review							
Environmental/Transportation Testing	1Q						
Field Evaluation	2Q						
Fielding Decision	3Q						
nitial Operational Capability	3Q						
Technology Refresh (Block II) / Develoment and Test		1Q-4Q					
Full Rate Production Decision - Block II		1Q					
Full Rate Production of Block II		1Q		3Q			
Fielding Decision - Block II				3Q			
FOC				3Q			
Block III R&D			1Q 05		4Q 07		
Block III Production (Retrofit)					1Q		3Q

EXHIBIT R-2a, RDT&	E Project Justifica	ation		DATE:						
				February 2004						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	OGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME								
RDT&E, N /BA-7 Operational Sys Dev	0206313M Ma	arine Corps Co	mmunications	s Systems	C2277 System	ns Engineering	g & Integration			
								Cost to	Total	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program	
Project Cost	8.918	8.762	7.960	9.567	8.744	9.030	9.204	Cont	Cont	
RDT&E Articles Qty										

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) This project provides funds for engineering, test, and evaluation activity, which ensures that the systems being developed within the Program Element (PE) employ consistent standards for interoperability and, to the maximum extent feasible, use hardware, and software which is uniform across programs.
- 1. The Marine Air-Ground Task Force Command, Control, Communications, Computers, and Intelligence Systems Engineering and Integration, Coordination. (MAGTF C4I SEI&C) subproject is a non-acquisition effort which provides centralized planning and execution of MAGTF C4I Systems. It develops, certifies and manages the configuration of the MAGTF C4I Systems/Technical Architecture and its implementation. It is also used to develop and test common hardware and software for use in MAGFT C4I Systems; MAGTF C4I SE&I also funds USMC participation in joint planning, technical standards development and joint exercise participation
- 2. Global Broadcast Service (GBS) Terminal The GBS is a satellite system composed of a space segment, a transmit suite and a Receive Suite. It provides near worldwide high data rate dissemination of large information products such as classified and unclassified intelligence and video, theater message traffic, joint and service-unique news, weather and Morale Welfare Recreation (MWR) programming to deployed or garrison forces via small user platforms.
- 3. MAGTF C4I SEI&C Joint Distributed Engineering Plant (JDEP) is a DoD mandated program to evaluate the interoperability of the Family of Systems (FoS) C4ISR configurations that support joint forces, evaluate the interoperability of new acquisition systems, and provide an environment for engineering analysis to correct systems deficiencies and develop new capabilities.
- 4. Joint Warrior Interoperability Demos (JWID) is a JCS-mandated program to demonstrate new C4I interoperability concepts for the warrior. JWID offers the opportunity for demonstrations of evolving technologies in interoperability, information dissemination, fusing and digital communications.
- 5. The Joint Interoperability of Tactical Command and Control Systems (JINTACCS) is a Joint Chiefs-of-Staff (JCS)-mandated program for joint development, implementation, and testing of data links under the direction of the Joint Interoperability Engineering Organization (JIEO).
- 6. Common Computer Resources (CCR) Marine Common Hardware Suite (MCHS) mission Central and standardized management and acquisition of all Tactical common computer hardware and infrastructure adopting the Joint Defense Information Infrastructure (DII) Common Operating Environment (COE) with consolidated Integrated Logistics Support. Ensure the environment remains in synchronization with computer hardware technology hardware improvements. The mission supports the Commandant's Planning Guidance and input to the Marine Corps Master Plan. This program has moved to Project C2510 within this Program Element (PE) in FY04 and beyond.
- 7. Balloon Upgrade The Marine Corps Stationary Lighter Than Air Platform (MCSLAP) program provides for the Marine Corps' only expeditionary capability to rapidly extend voice and data communications beyond line of sight. Small and medium tactical aerostat exist today in commercial off-the-shelf configurations that require minimal adaptation to meet basic USMC operational requirements. A lightweight, durable, stationary liftable platform is designed for extending Marine Air Ground Task Force (MAGTF) Communications, Communications, Computers, and Intelligence (C4I) communications range capabilities.

(U) B. ACCOMPLISHMENTS/ PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.600	1.188	1.192
RDT&E Articles Qty			

JWID: Participation in JWID, a JCS mandated program, to demonstrate new C4I interoperability concepts. It also supports management and planning of future JWID exercises.

EADIDIT NºZa. NIZ	T&E Droject Justification	DATE:				
2711121111124,112	February 2004					
				<u> </u>		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAM					
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication			Engineering & Integration		
COST (\$ in Millions)	FY 2003	FY 20		FY 2005		
Accomplishment/Effort Subtotal Cost	0.927	1.71	2	1.778		
RDT&E Articles Qty						
	JCS-mandated program aimed at ensuring interoperability testing/certification in support of C4I system					
COST (\$ in Millions)	FY 2003	FY 20	04	FY 2005		
Accomplishment/Effort Subtotal Cost	4.517	4.24	2	3.377		
RDT&E Articles Qty						
Group Managers in meeting C4I Support Pla reviews in the development and implemental	al support for configuration management of MAGTF Cons (KPPs). Maintain MSTAR system as technical roadion of the COE migration strategy. Analyze the movement of the COE migration strategy. Analyze the movement of the COE migration strategy.	lmap to MAGTF Conent of MAGTF C4	4I system integrat I systems to joint	ion. Analysis, studies and standards to mandated levels		
COST (\$ in Millions)	FY 2003	FY 20	04	FY 2005		
Accomplishment/Effort Subtotal Cost	0.382	1.62		1.613		
	0.302	1.02	0			
· ·	program to evaluate the interoperability of the Family of	-	_			
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisiticapabilities.	on systems, and provide an environment for engineering	g analysis to correct	systems deficiend	cies and develop new		
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisiticapabilities. COST (\$ in Millions)	on systems, and provide an environment for engineering	g analysis to correct	systems deficiend	ries and develop new FY 2005		
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisiticapabilities. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	on systems, and provide an environment for engineering	g analysis to correct	systems deficiend	cies and develop new		
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisiticapabilities. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Ballon Upgrade: Active testing and utiliza	FY 2003 1.333 tion of Aerostat Ballon to test concepts for USMC conn	FY 20 0.00 ectivity to USN Ba	osystems deficiend	FY 2005 0.000		
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisiticapabilities. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Ballon Upgrade: Active testing and utiliza COST (\$ in Millions)	FY 2003 1.333 tion of Aerostat Ballon to test concepts for USMC conn	FY 20 0.00 ectivity to USN Ba	o4 0 ttle Groups.	FY 2005 0.000 FY 2005		
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisiticapabilities. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Ballon Upgrade: Active testing and utiliza COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 1.333 tion of Aerostat Ballon to test concepts for USMC conn	FY 20 0.00 ectivity to USN Ba	o4 0 ttle Groups.	FY 2005 0.000		
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisiticapabilities. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Ballon Upgrade: Active testing and utiliza COST (\$ in Millions)	FY 2003 1.333 tion of Aerostat Ballon to test concepts for USMC conn FY 2003 0.172	FY 20 0.00 ectivity to USN Ba	o4 0 ttle Groups.	FY 2005 0.000 FY 2005		
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisitic capabilities. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Ballon Upgrade: Active testing and utiliza COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty GBS: Support and Management for Confidence of the control of the co	FY 2003 1.333 tion of Aerostat Ballon to test concepts for USMC conn FY 2003 0.172 ence/User Evaluation.	FY 20 0.00 ectivity to USN Ba FY 20 0.00	o4 0 ttle Groups.	FY 2005 0.000 FY 2005 0.000		
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisiticapabilities. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Ballon Upgrade: Active testing and utiliza COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty GBS: Support and Management for Confidence of COST (\$ in Millions)	FY 2003 1.333 tion of Aerostat Ballon to test concepts for USMC conn FY 2003 0.172 ence/User Evaluation. FY 2003	FY 20 0.00 ectivity to USN Ba FY 20 0.00 FY 20	o4 0 ttle Groups.	FY 2005 0.000 FY 2005 0.000 FY 2005 0.000		
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisiticapabilities. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Ballon Upgrade: Active testing and utiliza COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty GBS: Support and Management for Confidence of COST (\$ in Millions) Accomplishment/Effort Subtotal Cost COST (\$ in Millions) Accomplishment/Effort Subtotal Cost	FY 2003 1.333 tion of Aerostat Ballon to test concepts for USMC conn FY 2003 0.172 ence/User Evaluation.	FY 20 0.00 ectivity to USN Ba FY 20 0.00	o4 0 ttle Groups.	FY 2005 0.000 FY 2005 0.000		
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisiticapabilities. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Ballon Upgrade: Active testing and utiliza COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty GBS: Support and Management for Confidence COST (\$ in Millions) Accomplishment/Effort Subtotal Cost COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty	FY 2003 1.333 tion of Aerostat Ballon to test concepts for USMC conn FY 2003 0.172 ence/User Evaluation. FY 2003 0.987	FY 20 0.00 ectivity to USN Ba FY 20 0.00 FY 20 0.00	systems deficience 04 0 ttle Groups. 04 0 04 0	FY 2005 0.000 FY 2005 0.000 FY 2005 0.000 FY 2005 0.000		
MAGTF SEI&C (JDEP): DoD mandated pevaluate the interoperability of new acquisiticapabilities. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Ballon Upgrade: Active testing and utiliza COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty GBS: Support and Management for Confidence COST (\$ in Millions) Accomplishment/Effort Subtotal Cost COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty CCR MCHS: Research, evaluation, test an	FY 2003 1.333 tion of Aerostat Ballon to test concepts for USMC connection of Aerostat	FY 20 0.00 ectivity to USN Ba FY 20 0.00 FY 20 0.00 FY 20 0.00 ectorps Common	systems deficience 04 0 ttle Groups. 04 0 Hardware Suite (1)	FY 2005 0.000 FY 2005 0.000 FY 2005 0.000 FY 2005 0.000 MCHS). Development of		

EXHIBIT R-2a, RDT&E Project Justification				DATE:					
						February 2	2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	PROGRAM ELEMENT NUMBER AND NAM			PROJECT NUM	E			
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications Sy		Systems	C2277 Systems Engineering & Integration					
(U) PROJECT CHANGE SUMMARY:									
	FY2003	FY2004	FY2005						
(U) FY 2004 President's Budget:	10.736	8.907	7.991						
(U) Adjustments from the President's Budget:									
(U) Congressional Program Reductions									
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings	-1.635								
(U) SBIR/STTR Transfer	-0.183								
(U) Minor Affordability Adjustment		-0.145	-0.031						
(U) FY 2005 NAVCOMPT Budget:	8.918	8.762	7.960						
CHANGE SUMMARY EXPLANATION: (U) Funding: See Above. (U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMA	RY:								
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 200	6 FY 2007	FY 2008	FY 2009 To	Compl	Total Cost
PMC BLI 463000 CCR	30.720	61.062	61.989	70.98		88.869	103.734	Cont	Cont
PMC BLI 436600 RADIO SYSTEMS	49.231	23.658	14.476	16.35	1 10.694	26.827	10.340	Cont	Cont

(U) Related RDT&E:

- (U) PE 0604817A
- (U) PE 0206623M, Marine Corps Ground Combat/Supporting Arms Systems
- (U) D. ACQUISITION STRATEGY JWID, JINTACCS MAGTF SE&IC, GBS, AND CCR: Work will be led in-house. Necessary contractor support will be acquired using already existing contracts.
- **CCR T&E** Naval Service Warfare Center/Command NSWC/CD will procure Computer Hardware as noted under selected MCHS and non-MCHS systems for battery and environmental testing. NSWC/CD shall provide written test results showing the facts determined in the battery and environmental testing.
- (U) E. Major Performers: FY02-FY05 Northrup Grumman, Stafford VA Level of effort contract for logistics support, engineering, analytical, acquisition and program management for C4I programs in the areas of systems architectures, configuration management, interoprability and integration.

						DATE:						
Exhibit R-3 Cost Analysis									Februar	y 2004		
APPROPRIATION/BUDGET ACT RDT&E, N /BA 7 Operational Sy		PROGRAM E 0206313M M	LEMENT arine Corps Co	ommunicati	on Systems			NUMBER AN		egration		
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05	ľ		
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
JWID	MPR	JPO Ft Monmouth NJ	1.377	0.600	12/02	0.640	12/03	0.680	12/04	Cont.	Cont.	
JWID	WR	MCSC Quantico, VA	0.073	0.000		0.022	10/03	0.029	10/04	Cont.	Cont.	
BALLOON UPGRADE	MIPR	NSWC Crane IN	1.082	1.333				1			2.415	
Subtotal Product Dev		NOTICE CHAIRS IN	2.532			0.662		0.709		Cont.	Cont.	
Remarks:			2.002	1.000	1	0.002	l	000		Cont.	COIN.	l
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05	1	1	T
(Tailor to WBS, or System/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
,	& Type		Cost	Cost	Date	Cost	Date		Date	Cost to	Cost	of Contract
Requirements)		Location			Date			Cost				or Contract
JWID	C/FFP	NGIT, Stafford VA	1.176		04/00	0.526	10/03	0.483	10/04	Cont.	Cont.	
MAGTE SEI&C	MIPR	CECOM Ft Monmouth NJ	0.665			4 =00	40/00	4	40/04	Cont.	Cont.	
MAGTF SEI&C	C/FFP	NGIT, Stafford VA	0.610			1.736	10/03	1.449			4.652	
MAGTE SEI&C	WR	MCSC, Quantico, VA	0.508	0.110	10/02	0.144	10/03	0.123	10/04	Cont.	Cont.	
MAGTE SEI&C	C/FFP	OSEC Stafford VA	0.252	2 1	40/00	1		+		0.000	0.252	2
MAGTF SEI&C	WR	NSWC Crane IN	0.228							0.000	0.386	0.322
JCIET	RCP	MCSC, Quantico, VA		0.369								
JCIET	WR	MCSC, Quantico, VA	0.508									
JCIET	WR	NSWC Crane IN	0.228	0.400								
JCIET	WR	MCTSSA, Cp Pndltn, CA	0.120									
JCIET	RCP	MCTSSA, Cp Pndltn, CA		0.125								
JCIET	WR	MCSFB		0.015	09/03							
MAGTF SEI&C (JDEP)	WR	NSWC Dahlgren, VA	0.068	0.083		0.120	01/04	0.129	01/05	Cont.	Cont.	
MAGTF SEI&C (JDEP)	T&M	SENSIS Syracuse NY	0.547	0.046	05/03	1.164	05/04	1.089	05/05	Cont.	Cont.	
MAGTF SEI&C (JDEP)	MPR	DISA	0.007	0.010	02/03	0.010	02/04	0.012	02/05	Cont.	Cont.	
MAGTF SEI&C (JDEP)	WR	MCTSSA, Cp Pndltn, CA	0.120	0.243	04/03	0.326	04/04	0.380	04/05	Cont.	Cont.	
CCR	Various	Various	0.395	0.240	12/02					Cont.	Cont.	
CCR	MPR	GSA	0.802	0.411	03/03					Cont.	Cont.	
CCR	RCP	MCSC, Quantico, VA	0.037	0.037	03/03					Cont.	Cont.	
Subtotal Support			6.271	3.855		4.026		3.665		Cont	Cont	
Remarks:						•	•	•		•		•
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
MAGTF SEI&C	C/FFP	NGIT, Stafford VA		1.552		2.126	10/03	1.606		Cont.	Cont.	
JINTACCS	C/FFP	NGIT, Reston		0.909		1.507	10/03	1.570	10/04	Cont.	Cont.	
JINTACCS	WR	MCTSSA, Cp Pndltn, CA	0.364	0.018	10/02	0.205	10/03	0.208	10/04	Cont.	Cont.	
GBS	WR	MCTSSA, Cp Pndltn, CA	0.441	0.172		1		1		0.000	0.613	0.440
CCR	RCP	MCSC, Quantico, VA	2.065	_			1	1		Cont.	Cont.	2.1.1
Subtotal T&E			2.870	2.950		3.838		3.384		Cont.	Cont.	
Remarks:												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
MAGTF SEI&C	C/FFP	NGIT, Stafford VA		0.180		0.236	10/03	0.202	10/04	Cont.	Cont.	
Subtotal Management	1	,	1	0.180		0.236		0.202		Cont.	Cont.	
Remarks:		1		000	I	0.230	I	V.202	l .	, John		ı
Total Cost				0.040		0.700	1	7 000	1	0	0	Γ
Total Cost	1			8.918		8.762		7.960		Cont.	Cont.	

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EXHIBIT R-2a, RDT8	E Project Justifica	ntion				DATE:			
								ebruary 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT NUMB	ER AND NAME			PROJECT NUI	MBER AND NA	ME	
RDT&E, N /BA-7 Operational Sys Dev	0206313M Ma	rine Corps Cor	mmunications	Sys		C2278 Air Defense Weapons Systems			
								Cost to	Total
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program
Project Cost	23.238	23.338	22.765	6.429	11.075	10.537	5.798	Cont	Cont
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) This project encompasses two sub-element programs which are part of the Integrated Air Defense System for the Marine Corps.
 - 1. Combat ID (CID) will provide rapid and accurate determination of friends, foes, or neutral identities of all potential targets within a combatant's area of responsibility in time to take decisive action. It will enable fighting forces: to manage and control battlespace; optimally employ weapons and forces to increase the economy of force; lower combat attrition, and increase enemy losses while reducing fratricide. CID must be viewed as a capability which will be satisfied by fielding a Family of Systems (FoS). Beginning in FY-04 the USMC will focus on providing a Mounted Cooperative Target Identification System (MCTIS) for direct fire and combat support vehicles. This system will specifically provide the capability for Mounted Weapon Systems to accurately identify friendly platforms on the battlefield which will improve combat effectiveness and reduce fratricide. This program will transition to MCTIS in FY04.
 - 2. The Complementary Low Altitude Weapons System (CLAWS) is a mobile ground based air defense missile system designed to defeat threat cruise missiles unmanned aerial vehicles, rotary wing and fixed wing aircraft. CLAWS shall provide a rapidly deployable, mobile, high firepower, all-weather, standoff air defense system to defend Marine Expeditionary Forces and Naval Forces from attack by cruise missiles, aircraft and UAVs. It shall complement existing Short Range Air Defense (SHORAD) capabilities and shall interface with current and proposed Marine Air Command and Control Systems, sensors, and data paths.
 - **3.** The Continuous Wave Acquisition Radar (CWAR) will investigate, integrate, and test safety and diminishing source issues related to CWAR specifically with the intention of increasing the fleet's system maintainability and reliability. The AN/MPQ-62 Marine Requirements Oversight Council (MROC) Phase Out decision was approved in Jan 03, and phase out will begin in 4th Quarter FY03. This program will transition to Short/Medium Range Air Defense Radar. Funding for the Short/Medium Range Air Defense Radar has moved to Project C3099 within this PE in FY04 and beyond.
 - 4. The Composite Tracking Network, formerly know as Cooperative Engagement Capability (CEC), enables all CTN-equipped, Anti-Air Warfare (AAW) weapons systems in a battle force to operate as a single, distributed AAW weapon system. This is accomplished providing timely sharing of fire control quality sensor data, correlated identification data, and AAW weapons management status. The sensor networking capability of CTN essentially allows forces to have a direct connection to the various sensors supported by forces throughout a battlefield enabling the development of a common understanding of the air situation. CTN consists of common processing units that interface with local and remote sensor data in order to develop a common track database and data communications pieces that enable the connectivity and networking of the sensors and processors. Funding for this program has moved to Project C2273 within this PE in FY04 and beyond.
 - 5. The Low Altitude Air Defense (LAAD) Sustainment program provides the LAAD Battalions with the technologies/equipment required to maintain a Short Range Air Defense (SHORAD) capability in support of the Marine Air Ground Task Force (MAGTF), and provides lifecycle sustainment support, training, and integration for current/future LAAD specific equipment which includes air defense missiles, PMS, and CLAWS. The LAAD Sustainment Program supports the Stinger and AMRAAM based weapon systems by managing five separate areas: Expeditionary Air Defense Systems (EADS) hardware and software, Trainers and Simulators, Missiles, Ground Support Equipment (GSE), and targets.
 - 6. The Multi-Role Radar System (MRRS) will provide lightweight, expeditionary, three-dimensional radar capable of detecting Cruise Missiles (CMs), fixed and rotary winged aircraft, Unmanned Aerial Vehicles (UAV's) and an enhanced Combat Identification (CID) capability. The system will augment the AN/TPS-59(V)3 sensor coverage and will be integrated into the Navy's Cooperative Engagement Capability (CEC) and the Marine Corps Composite Tracking Network (CTN). Additionally, the system shall provide Air Traffic Control (ATC) with a real time display of all air activity within the assigned area of responsibility and will support the situational awareness and cuing for Stinger, Avenger, and CLAWS. Funding for this program has moved to Project C3099 within this PE in FY04 and beyond.
 - 7. Pedestal Mounted Stinger (PMS) or "Avenger" is a turreted, lightweight, highly mobile gun/missile hybrid mounted on a heavy HMMWV. The system delivers eight ready to fire Stinger missiles and 285 rounds of .50 caliber ammunition in a single upload. An upgraded Land Navigation System assists the slew-to-cue capability and the Forward Looking Infra Red Device provides a day/night and reduced visibility capability.

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EXHIBIT R-2a, RDT&E	Project Justification	DATE:						
		February 2004						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev								

- 8. The Short/Medium Range Air Defense Radar will develop engineering change proposals related to improved system performance with the specific purpose of meeting increased fleet operational requirements. As part of this effort, AN/TPS-63 modifications and system improvements will be researched and analyzed which complement existing components to preclude an expensive USMC investment in solid-state radar technology. Funding for this project has moved to Project C3099 in FY04 and beyond.
- 9. Mounted Cooperative Target ID System (MCTIS) will be a cooperative battlefield target identification device that employs encrypted, Ka band, millimeter wave, question and answer technology. It will consist of interrogator and transponder antennae, transceiver, and communications/electrical interface unit. It will be fielded as two variants: interrogator/transponder system for AAAVs, LAVs, and M1A1s; and transponder-only system for combat support and combat service support vehicles. When fielded, mounted weapon systems will have the capability to identify targets as friendly or unknown, at ranges to 6 km, before engaging them. They and all other designated vehicles will also possess the capability to rapidly identify themselves as friendly to weapon systems equipped with comparable systems prior to being engaged. As a result, incidents of fratricide and collateral damage will decline, while the range at which targets may be engaged without fear of misidentification will increase dramatically. The system will be interoperable with Joint, Allied, and coalition forces' cooperative target identification systems.

(U) B. ACCOMPLISHMENTS/ PLANNED PROGRAM:

Accomplishment/Effort Subtotal Cost RDT&E Articles Qty	0.150	0.000	0.000
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
SHORT/MEDIUM RANGE AIR DEFENSE RADAR:			,
RDT&E Articles Qty			
Accomplishment/Effort Subtotal Cost	0.999	0.000	0.000
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
CID: Engineering analysis of CID systems in coordination	with the Coalition CID ACTD program.		
RDT&E Articles Qty			
Accomplishment/Effort Subtotal Cost	0.406	0.000	0.000
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
CID: Requirements development.			
RDT&E Articles Qty			
Accomplishment/Effort Subtotal Cost	0.374	0.000	0.000
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
CID: Program management support.			
RDT&E Articles Qty			
Accomplishment/Effort Subtotal Cost	0.600	0.000	0.000
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
CWAR: Developmental test and evaluation.			Τ
RDT&E Articles Qty			
Accomplishment/Effort Subtotal Cost	0.211	0.000	0.000
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005

SHORT/MEDIUM RANGE AIR DEFENSE RADAR: Development of Engineer Design Model.

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EXHIBIT R-2a, RD	T&E Project Justification		DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAI	ΛE	PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communication	is Sys	C2278 Air Defense Weapons Sys			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005			
Accomplishment/Effort Subtotal Cost	0.110	0.000	0.000			
RDT&E Articles Qty						
SHORT/MEDIUM RANGE AIR DEFEN	SE RADAR: Program management support. Funding f	or this program has moved to C	23099 within this PE for FY04 and			
beyond.						
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005			
Accomplishment/Effort Subtotal Cost	1.837	0.000	0.000			
RDT&E Articles Qty						
CTN: Software development: IDD develop	ment for CAC2S and CLAWS interface to CTN.					
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005			
Accomplishment/Effort Subtotal Cost	4.444	0.000	0.000			
RDT&E Articles Qty						
CTN: Development of Engineer Design Mo	del.	-				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005			
Accomplishment/Effort Subtotal Cost	0.919	0.000	0.000			
RDT&E Articles Qty						
CTN: Testing and Evaluation: Developmen	ntal testing support. Certification of CAC2S and CLAW	S interfaces to CTN.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005			
Accomplishment/Effort Subtotal Cost	0.527	0.000	0.000			
RDT&E Articles Qty						
CTN: Program management support. Fundi	ing for this program has been moved to Project C2273 v	vithin this PE for FY 04 and bey	vond.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005			
Accomplishment/Effort Subtotal Cost	2.862	4.010	4.894			
RDT&E Articles Qty						
CLAWS: Development, design, test and into	egration issues related to the four Production Representa	tive Vehicles. Perform Key Per	rformance Parameter (KPP).			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005			
Accomplishment/Effort Subtotal Cost	3.432	1.194	7.996			
RDT&E Articles Qty			1.000			
CLAWS: Developmental Testing (DT).	!	-	<u> </u>			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005			
Accomplishment/Effort Subtotal Cost	0.000	7.622	0.000			
RDT&E Articles Qty	0.000	11022	0.300			
CLAWS: Operational Testing (OT).	l	1				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005			
Accomplishment/Effort Subtotal Cost	3.282	6.199	5.497			
RDT&E Articles Qty	3.202	0.199	5.431			

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EXHIBIT R-2a, RD	Γ&E Project Justification			DATE:		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	NUMBER AND NAM	E	PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Co	rps Communications	s Sys	C2278 Air Defense Weapons Systems		
COST (\$ in Millions)	·	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost		0.633	0.000	0.000		
RDT&E Articles Qty						
MRRS: Developmental test and evaluation/	risk reduction.					
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost		0.993	0.000	0.000		
RDT&E Articles Qty						
MRRS: Refinement of the ORD, Campaign	Level Effectiveness Analysis, A	nalysis of Alternatives an	d Life Cycle Cost Estimate.			
				EV 2005		
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost		FY 2003	FY 2004	FY 2005 0.000		
		0.198	0.000	0.000		
RDT&E Articles Qty MRRS: Study on the realiability of the fourt	n mission area accentar bottom					
•	i mission area - counter battery.					
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost		0.917	0.000	0.000		
RDT&E Articles Qty						
MRRS: Program Management Support. Fur	iding for this program has been i	noved to C3099 within the	ne same PE for FY04 and bey	ond.		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost		0.022	0.300	0.684		
RDT&E Articles Qty						
LAAD SUSTAINMENT: Development of	replacement for Remote Termina	al Unit (RTU).				
•	-					
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost		0.149	0.000	0.000		
RDT&E Articles Qty						
LAAD SUSTAINMENT: Upgrades to EAI	OS 7.4 software.			·		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost		0.048	0.000	0.000		
RDT&E Articles Qty						
LAAD SUSTAINMENT: Hazards of Elect	romagnetic Radiation to Ordnan	ce (HERO) testing.				
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost		0.000	0.828	1.000		
RDT&E Articles Qty	ELDCOO C. 1	FADS software running	on replacement RTU.			
LAAD SUSTAINMENT: Development of	EADS 8.0.x - future upgrades to	LADS SOILWARE TURNING				
LAAD SUSTAINMENT: Development of COST (\$ in Millions)	EADS 8.0.x - future upgrades to	FY 2003	FY 2004	FY 2005		
LAAD SUSTAINMENT: Development of	EADS 8.0.x - future upgrades to			FY 2005 0.100		

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EXHIBIT R-2a, RD7	Γ&E Project Justification		DATE:		
	February 200				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME		
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marine Corps Communications		C2278 Air Defense Weapons Systems		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.450	0.000		
RDT&E Articles Qty					
LAAD SUSTAINMENT: Development of S	Singer missile training ststem.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.200	0.200		
RDT&E Articles Qty					
LAAD SUSTAINMENT: Integration of Hi	gh Pressure Pure Air Generator (HiPPAG) into Avenger V	Weapon System.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.030	0.029	0.017		
RDT&E Articles Qty					
LAAD SUSTAINMENT: Program Manage	ement Support.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.095	0.000	0.000		
RDT&E Articles Qty					
LAAD SUSTAINMENT: Stinger Missile S	Shelf Life Study.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	1.039	0.987		
RDT&E Articles Qty					
MCTIS: Program management support.					
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.500	0.500		
RDT&E Articles Qty					
MCTIS: Test and evaluation as part of the co	oalition CID ACTD program.				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.225	0.300		
RDT&E Articles Qty					
MCTIS: Engineer Design Model.	,	l			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.150	0.150		
RDT&E Articles Qty					
MCTIS: Risk reduction.	•	•			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost RDT&E Articles Qty	0.000	0.000	0.250		

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EXHIBIT R-2a, RDT&E P	roject Justificatio	n			DATE:	February 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEN	IENT NUMBER	AND NAME		PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev	0206313M Marin			S	C2278 Air Defense Weapons Systems			
COST (\$ in Millions)		FY 2003 FY 2004			FY 2005	T		
Accomplishment/Effort Subtotal Cost		0.000		0.462	0.000			
RDT&E Articles Qty								
PEDESTAL MOUNTED STINGER: Test and e	valuation/risk reducti	on of FLIR for A	venger.					
COST (\$ in Millions)		FY 200	3	FY 2004	FY 2005			
Accomplishment/Effort Subtotal Cost		0.000		0.030	0.030			
RDT&E Articles Qty								
PEDESTAL MOUNTED STINGER: Engineering	ng support for follow-	on initiatives.				<u></u>		
COST (\$ in Millions)		FY 200	3	FY 2004	FY 2005			
Accomplishment/Effort Subtotal Cost		0.000		0.000	0.160			
RDT&E Articles Qty								
OTTO PER A LA		22 229		22 220	22.765			
(U) Total \$ (U) PROJECT CHANGE SUMMARY:		23.238		23.338	<u>22.765</u>			
	FY2003	23.238 FY2004	<u>FY2005</u>	23.338	<u>22.765</u>			
	FY2003 28.274		<u>FY2005</u> 9.596	23.338	<u>22.765</u>			
(U) PROJECT CHANGE SUMMARY: (U) FY 2004 President's Budget:		<u>FY2004</u>		23.338	<u>22.765</u>			
(U) PROJECT CHANGE SUMMARY: (U) FY 2004 President's Budget: (U) Adjustments from the President's Budget: (U) Congressional Program Reductions		<u>FY2004</u>		23.338	<u>22.765</u>			
(U) PROJECT CHANGE SUMMARY: (U) FY 2004 President's Budget: (U) Adjustments from the President's Budget: (U) Congressional Program Reductions (U) Congressional Rescissions		<u>FY2004</u>		23.338	<u>22.765</u>			
(U) PROJECT CHANGE SUMMARY: (U) FY 2004 President's Budget: (U) Adjustments from the President's Budget: (U) Congressional Program Reductions (U) Congressional Rescissions (U) Congressional Increases	28.274	<u>FY2004</u> 23.428	9.596	<u>23.338</u>	<u>22.765</u>			
(U) PROJECT CHANGE SUMMARY: (U) FY 2004 President's Budget: (U) Adjustments from the President's Budget: (U) Congressional Program Reductions (U) Congressional Rescissions (U) Congressional Increases (U) Reprogrammings	-2.416	<u>FY2004</u>		<u>23.338</u>	<u>22.765</u>			
(U) PROJECT CHANGE SUMMARY: (U) FY 2004 President's Budget: (U) Adjustments from the President's Budget: (U) Congressional Program Reductions (U) Congressional Rescissions (U) Congressional Increases (U) Reprogrammings (U) SBIR/STTR Transfer	-2.416 -0.494	FY2004 23.428	9.596 13.568	<u>23.338</u>	<u>22.765</u>			
(U) PROJECT CHANGE SUMMARY: (U) FY 2004 President's Budget: (U) Adjustments from the President's Budget: (U) Congressional Program Reductions (U) Congressional Rescissions (U) Congressional Increases (U) Reprogrammings	-2.416	<u>FY2004</u> 23.428	9.596	<u>23.338</u>	<u>22.765</u>			

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EXHIBIT R-2a, RDT8	E Project Justification	DATE:					
		February 2004					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev	C2278 Air Defense Weapons Systems						

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(U) PMC LINE BLI 300600 LAAD SUSTAINMT	0.065	1.981	10.314	12.083	14.642	6.011	13.519	Continuing	Continuing
(U) PMC LINE BLI 462000 CWAR (EADS)	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1
(U) PMC LINE BLI 464000 CTN	0.000	0.000	0.000	22.477	34.840	43.993	68.803	Continuing	Continuing
(U) PMC LINE BLI 464000 MCTIDS (CID)	0.000	0.000	0.000	0.000	0.000	0.500	15.300	Continuing	Continuing
(U) PMC LINE BLI 489000 CLAWS	0.000	0.000	4.412	26.661	28.145	19.737	3.618	Continuing	Continuing
(U) PMC LINE BLI 305000 CLAWS MISSILES	0.000	0.000	0.000	22.611	19.251	49.209	24.410	Continuing	Continuing
(U) PMC LINE BLI 464000 SH/MED RANGE AIR	0.707	0.000	0.000	0.000	0.000	0.000	0.000	0	0.976
(U) PMC LINE BLI 464200 SH/MED RANGE AIR	0.000	1.569	1.421	0.526	0.436	0.443	0.448	Continuing	Continuing
(U) PMC LINE BLI 464200 MRRS	0.000	0.000	0.000	2.058	33.046	45.654	46.900	Continuing	Continuing
(U) PMC LINE BLI 301300 PMS	1.648	0.811	10.004	6.470	9.520	3.463	8.671	Continuing	Continuing

(U) Related RDT&E:

PE 0603216C (Ballistic Missile Defense Organization, Theater Missile Defense)

(U) D. ACQUISITION STRATEGY:

- (U) CID: This effort will continue the management of the CID program as it transitions to MCTIS (Mounted Cooperative Target Identification System) in FY04. The program will leverage heavily from the Coalition CID ACTD program and will allow for engineering analysis of competing systems as the possible MCTIS solution.
- (U) CLAWS: CLAWS will integrate government furnished equipment (GFE), non-developmental items (NDI) and new technology to develop a surfaced launched Anti-Air launcher. CLAWS will utilize the AMRAAM (current inventory DoD missile), existing High Mobility Multi-purpose Wheeled Vehicle (HMMWV) and contractor developed missile launch platform. (U) CWAR: This effort requires R&D funds to develop, procure, install and maintain modifications to keep the Marine Air Command and Control System radar's electronics, hardware, and software viable and safe; provide upkeep of the system. Efforts are underway with APM AD weapons to award an Engineering Services and procurement contract with Raytheon Corporation. The main focus for the contract will be for the procurement of the AN/MPQ-62 Continuous Wave Acquisition Radar (CWAR), Built in Test Equipment (BITE) Diagnostics upgrade which replaces five major sub-assemblies resulting in a substantial reduction in obsolete components, an increase in system reliability and maintainability, as well as addressing any significant safety issues. The AN/MPQ-62 Marine Requirements Oversight Council (MROC) Phase Out decision was approved in Jan 03, and phase out will begin in the 4th Qtr of (U) CTN: The USMC's CTN acquisition strategy is to participate in the USN's Program procurement and testing, making necessary modifications to support the Marine Corps requirement. The USMC CTN project will be utilizing existing and future USN CEC contracts.
- (U) LAAD SUSTAINMENT: The LAAD Sustainment acquisition strategy is to repair, sustain, or replace LAAD systems experiencing readiness degredation due to obsolescence. Examples include the replacement of RemoteTerminal Units, shelf life extensions to USMC Stinger Missiles, upgrading trainers to tactical configuration, upgradeing the present target configurations, and the replacement of Stinger Night sights. LAAD Sustainment will leverage Army interests in every available endeavor. Teaming with the Army will afford the USMC the best quantity of buy opportunities.
- (U) MRRS: The MRRS will build off of the ONR Affordable Ground Based Radar Science and Technology program that will demonstrate advanced mobility combined with medium range and high resolution.

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EXHIBIT R-2a, RDT&E	EXHIBIT R-2a, RDT&E Project Justification								
		February 2004							
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUMBER AND NAME								
RDT&E, N /BA-7 Operational Sys Dev	C2278 Air Defense Weapons Systems								

- (U) PEDESTAL MOUNTED STINGER: This effort requires R&D funds to conduct interface testing of new equipment with USMC unique configuration to ensure requirements are maintained to keep the PMS viable, safe, and provide sustainment of the fielded weapon system. The USMC PMS project will utilize existing and future In-Service Engineering Activities.
- (U) SHORT/MEDIUM RANGE AIR DEFENSE RADAR: This effort requires R&D funds to develop, procure, install, and maintain modifications to keep the Short/Medium Range Air Defense radar system's electronics and hardware viable and safe, and to provide sustainment of the fielded system. Efforts are underway to award a sole source Engineering Services & procurement contract with the AN/TPS-63's Original Equipment Manufacturer, Northrop Grumman. The main focus for the contract is the development and procurement of replacement sub-assemblies currently identified as containing obsolete components, as well as those assemblies experiencing reliability, maintainability and safety-related issues.

 (U) MCTIS: Economy of scales dictate a strategy that highly leverages Joint/coalition evolutionary development efforts. The FY03 through FY05 Coalition Combat ID Advanced Concept
- Technology Demonstration (CCID ACTD) process will evaluate several millimeter wave (mmW) Target Identification systems with the objective of identifying the best system to satisfy the Marine Corps requirement. FY-04/05 efforts will focus on unique system integration efforts required on Marine Corps vehicles not already accomplished through similar Joint efforts. It is anticipated system procurement acquisition will be accomplished on a Joint/coalition basis to take advantage of parallel support efforts.

(U) E. MAJOR PERFORMERS:

COMPOSITE TRACKING NETWORK:

FY03 NSWC, Crane, IN, Engineering services. Jan 03

CLAWS:

FY03 Raytheon, Tewkbury MA - Product development and developmental test -Nov 02

FY03 MCSC, Quantico VA - CEOSS Omnibus Contract program support - Dec 02

FY04 Raytheon, Tewsbury, MA. Product development and developmental test. Jan 04

FY05 Raytheon, Tewsbury, MA. Product development and developmental test. Jan 04

MCTIS:

Anteon Corporation, Arlington, VA. Engineering and Technical services. Jan 04

LAAD SUSTAINMENT

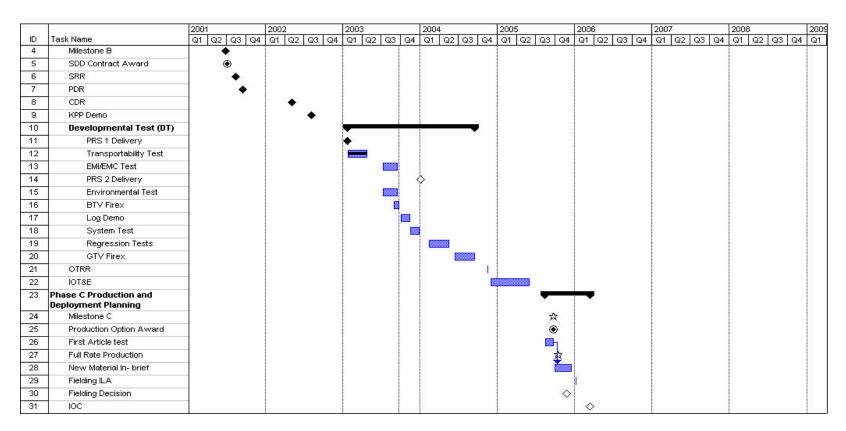
FY05 Raytheon, Tewksbury, MA Product development. Jan 05

					IDATE:												
	February 2004																
ADDDODDIATION/BLIDGET	Exhibit R-3 Cost Analysis APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT							PROJECT NUMBER AND NAME									
RDT&E, N /BA 7 Operationa				. Communi													
Cost Categories	Contract	Performing	Total		FY 03	<u> </u>	FY 04	III Delelise	FY 05	Systems							
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value					
Requirements)	& Type			Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract					
CWAR	MIPR	Redstone Arsenal, AL	0.000			0031	Date	0031	Date	Cont.	Cont.	OI COILLIACE					
S/M Range Air Defense Rdr	MIPR	Redstone Arsenal, AL	0.100							0.000		0.925					
CTN	RCP	Lockheed, Syracuse NY	0.699							Cont.		0.923					
CTN	WR	NSWC, Crane, IN	2.910							Cont.							
CTN	RCP	Raytheon, St Ptrsbrg, FL	0.873							Cont.							
CTN	RCP	NAWC, PaxRiver, MD	0.000							0.000		2.000					
CTN	WR	SPAWAR (EMA, Inc.)	0.000							0.000							
CTN	RCP	Solipsys, Laurel, MD	1.081	1.000						Cont.		0.020					
CID/MCTIS	WR	NSWC, Crane, IN	0.000					0.213	01/05	Cont.	Cont.						
CLAWS	RCP	Raytheon, Bedford, MA	9.609			3.805	01/04		01/05								
CLAWS	MIPR	Pt Mugu, Ca	0.000			0.010		3.789 0.121	01/05	Cont.							
MRRS	MIPR	Redstone Arsenal, AL	0.000			0.010	01/04	0.121	01/05	Cont.	1						
MRRS	RCP	MCSC, Quantico, VA	0.000									0.050					
LAAD SUSTAINMENT	WR	NSWC, Crane, IN	0.000			0.379	01/04	0.750	01/05	0.000	0.250 Cont.	0.250					
		·	1						1	Cont.							
LAAD SUSTAINMENT	RCP	MCSC, Quantico, VA	0.000			0.200		0.200	01/05	Cont.	Cont.	0.450					
LAAD SUSTAINMENT	RCP	MCSC, Quantico, VA	0.000			0.450		4.000	04/05	0.000		0.450					
LAAD SUSTAINMENT	RCP	Raytheon, Tewksbury, MA	0.000	0.219	03/03	0.828		1.000	1	Cont.							
PMS	WR	NSWC, Crane, IN	4= 0=0			0.402	01/04	0.080	01/05	Cont.	Cont.						
Subtotal Product Dev			15.272	11.917		6.074		6.153		Cont.	Cont.						
Remarks:																	
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05								
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value					
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract					
SH/Med Rng Air Def Radar	WR	NSWC. Crane, IN	0.090							Cont.	Cont.						
SH/Med Rng Air Def Radar	RCP	Northrup Grumman,	0.000							Cont.	Cont.						
CIDMCTIS	RCP	MCSC, Quantico, VA	0.576			0.127	01/04	0.374		0.000		0.652					
CIDMCTIS	WR	NSWC, Crane, IN	0.150			0.225		0.225		0.000							
CIDMCTIS	WR	MCSC, Quantico, VA	0.000			0.030	01/04	0.030	01/05	Cont.							
CTN	WR	MCSC, Quantico, VA	0.115							Cont.							
CTN	MIPR	Defense Cont. Cmd	0.000				-	0.007	04/05	0.000							
CLAWS	WR	NSWC, Crane, IN	0.170			0.050	40/00	0.987	01/05	Cont.							
CLAWS CLAWS	WR WR	MCSC, Quantico, Va MCCDC, Quantico, VA	0.180			0.358	12/03	1.205 0.900		Cont.							
CLAWS	VVK	MCCDC, Quantico, VA	0.000		01/03	0.660	01/04	0.900	01/05	Cont.							
CLAWS	MIPR	JSPO, Eglin, AFB, FL	0.000			0.666 0.504				Cont.	Cont.						
CLAWS	WR	MCTSSA, Cp Pndltn,CA	0.000			0.504	01/04			Cont.							
CLAVVO	VVK	INICTOSA, CP Phalin,CA	0.000			0.5/1	01/04			Cont.	Uont.						

					DATE:									
	February 2004													
Exhibit R-3 Cost Analysis APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT						PROJECT NUMBER AND NAME								
RDT&E, N /BA 7 Operation				Communic	ation Sve									
LAAD SUSTAINMENT	WR	MCSC, Quantico, VA	0.000	0.030		0.050	C2278 Air Defense Weapon 12/03 0.051 12/04			Cont.				
LAAD SUSTAINMENT	MIPR	Redstone Arsenal. AL	0.000	0.030	12/02	0.050	12/03	0.051	12/04	0.000	Cont. 0.095			
MRRS	MIPR	Jnt Spectrum Ctr, Annapolis	0.000	0.093	04/03					0.000	0.202			
MRRS	RCP	MCSC, Quantico, VA	0.000	0.202	03/03					Cont.	Cont.			
MRRS	MIPR	ONR Arlington, VA	0.000	0.330	08/03					Cont.	Cont.			
MRRS	MIPR	GSA, Bremerton, WA	0.000	0.040	04/03					0.000	0.040			
MRRS	WR	NSWC, Crane IN	0.000	0.165	12/02					Cont.	Cont.			
Subtotal Support		Trotto, crano irr	1.281	2.874	, 0_	2.531		3.772		Cont.	Cont.			
Remarks:				2.0.		2.00.		02						
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05					
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value		
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract		
CID/MCTIS	WR	CECOM, Ft Monmouth	0.000	0.000	2 4.10	0.532	01/04	0.600	01/05	Cont.	Cont.	0. 00		
CTN	WR	MCTSSA, Cp Pndltn,CA	0.035	0.005	10/02	0.002	0.70.	0.000	0.700	Cont.	Cont.			
CLAWS	WR	White Sands. NM	0.100	1.000	01/03	0.969	12/03	0.798	12/04	0.000	2.867			
CLAWS	1	MCOTEA	0.125	0.140	10/02	0.537	12/03	0.160	12/04	Cont.	Cont.			
CLAWS	MIPR	Aberdeen, Md	0.142	0.039	02/03	0.341	12/03	0.301	12/04	Cont.	Cont.			
CLAWS	RCP	Raytheon, Tewksbury, MA	0.000	2.803	03/03	2.171	12/03	1.600	12/04	Cont.	Cont.			
CLAWS	RCP	MCTSSA, Cp Pndltn,CA	0.000	0.024	03/03			0.315	12/04	Cont.	Cont.			
CLAWS	MIPR	JSPO, Eglin, AFB, FL	0.000	0.150	12/02	1.671	12/03	2.700	12/04	Cont.	Cont.			
CLAWS	MIPR	Redstone Arsenal, AL	0.000	0.590	09/03	1.222	12/03	1.733	12/04	Cont.	Cont.			
PMS	RCP	Boeing, Huntsville, AL				0.060	01/04	0.080	01/05	Cont.	Cont.			
Subtotal T&E			0.402	4.751		7.503		8.287		Cont.	Cont.			
Remarks:						'								
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05					
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value		
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract		
CTN	RCP	MCSC (Mevatec)	0.000	0.027	03/03					Cont.	Cont.			
CTN	RCP	NGIT, Stafford, VA	0.868	0.732	06/03					Cont.	Cont.			
CIDMCTIS	RCP	Anteon, Stafford, VA	0.000	0.570	01/03	1.000	01/04	0.745	01/05	Cont.	Cont.			
MRRS	WR	MCSC, Quantico, VA	0.000	0.156	01/03					Cont.	Cont.			
MRRS	RCP	Anteon, Stafford, VA	0.000	0.761	01/03					Cont.	Cont.			
CLAWS	RCP	NGIT, Stafford, VA	1.579	1.200	09/02	1.656		1.700	12/04	Cont.	Cont.			
CLAWS	RCP	MCSC, Quantico	0.000	0.250	09/02	2.932	12/03	2.078	12/04	Cont.	Cont.			
CLAWS	WR	NSWC Crane, IN	0.000	0.000		0.756	12/03			Cont.	Cont.			
CLAWS	WR	Redstone Arsenal, AL	0.000	0.000		0.856				Cont.	Cont.			
PMS						0.030	12/03	0.030	12/04	Cont.	Cont.			
Subtotal Management			2.447	3.696		7.230		4.553		Cont.	Cont.			
Remarks:														
Total Costs				23.238		23.338		22.765		Cont.	Cont.			

			DATE:
Exhibit R	-4/4a Project Schedule/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT N	NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communication Sys	C2278 Air [Defense Weapons Systems

CLAWS



Program Funding Summary	<u>FY 2003</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(APPN, BLI #, NOMEN)									
(U) RDT&E,N C2278	9.576	19.025	18.387	1.740	1.843	0.910	0.950	Continuing	Continuing
(U) PMC BLI# 489000 CLAWS	0.000	0.000	4.412	26.661	28.145	19.737	3.618	Contnuing	Continuing
(U) PMC BLI# 305000 CLAWS MISSILES	0.000	0.000	0.000	22.611	19.251	49.209	24.410	Continuing	Continuing

ION/BUDGET ACTIVITY	R-4/4a Project Schedul PROGRAM ELEMEN 0206313M Marine Co	Τ	unication C			NUMBER AN	ND NAME	February 2
A 7 Operational Sys Dev CLAWS SCHEDULE DETAIL	U206313W Warine Co	FY 2003	FY 2004	FY 2005	FY 2006	Pefense Wea	FY 2008	FY 2009
Development Testing		1Q	F1 2004	F1 2005	F1 2000	F1 2007	F1 2006	F1 2009
Operational Testing		IQ	3Q					
Fielding Decision			JQ	3Q				
Initial Operational Capability				JQ	1Q			
irillar Operational Capability					100			

			DATE:	
Exhibit F	R-4/4a Project Schedule/Detail		February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT I	NUMBER AND NAME	
RDT&E, N /BA 7 Operational Sys Dev	0206313M Marine Corps Communication Sys	C2278 Air [Defense Weapons Systems	





MCTIS Program Schedule

Fiscal Year Quarter	02 I II III IV	03 I II III IV	04 I II III IV	05 I II III IV	06 I II III IV	07 I II III IV	08 I II III IV	09 I II III IV
ORD		Δ						
Market Survey	Δ	→•						
Life Cycle Cost Estimate	Δ	•			0			→ •
Risk Management		Δ						→ •
T & E Strategy/TEMP Dev		Δ			→ ●			
ACQ Strategy Prep		Δ			→ ●			
ACQ Program Baseline				$\Delta \longrightarrow$	(
RFP Preparation & Release			Δ	→(
RFP/EVAL/SSB					\triangle			
Milestones		\Rightarrow	MS A		\Rightarrow	MS B		MS C
E&MD							-	<u> </u>
Integration Testing/OpEval					Δ		-	<u> </u>
Production								Δ
CCID ACTD	\triangle ——				─			

Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(APPN, BLI #, NOMEN)									
(U) R&D Air Def Weaps Sys (Combat ID) C2278	1.380	0.000	0.000	0.000	0.000	0.000	0.000	Contnuing	Continuing
(U) RDT&E,N ADWS (MCTIDS) C2278	0.000	1.914	2.187	2.829	6.687	7.159	2.340	Continuing	Continuing
(U) PMC BLI# 464000 Air Ops C2 Systems (MCTIDS)	0.000	0.000	0.000	0.000	0.000	0.500	15.300	Contnuing	Continuing

						DATE:		
APPROPRIATION/BUDGET ACTIV	Exhibit R-4/4a Project Sche	edule/Detail			PROJECT I	NIIMDED AN		February 2004
RDT&E, N /BA 7 Operational Sys		ı⊏ıvı e Corps Comm	unication S	ys	C2278 Air I			ems
MCTIS SCHEDUI		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone A		4Q						
Milestone B					4Q			
Integration Testin	g				1stQ			4Q

EXHIBIT R-2a, RDT&E Project Justification						DATE:				
						F	ebruary 2004	1		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT NUM	BER AND NA	ME		PROJECT N	UMBER AND	NAME		
RDT&E, N /BA-7 Operational Sys Development	0206313M Ma	arine Corps Co	ommunicatio	n Systems		C2315 Traini	ing Devices/S	imulators		
								Cost to	Total	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program	
Project Cost	7.277	12.278	4.863	8.267	5.634	4.284	4.443	Cont	Cont	
DDT 15 Astistan Otto										
RDT&E Articles Qty										

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Training simulators supported by this program element include Joint Simulation System (JSIMS), Closed Loop Artillery Simulation System (CLASS), Multiple Integrated Laser Engagement System (MILES 2000), Special Effect Small Arms Marking System (SESAMS), and Combined Arms Command & Control Training Upgrade System (CACCTUS). These training systems provide tactical weapons and decision-making skill training from entry level through Marine Air-Ground Task Force (MAGTF) staff level. CLASS integrates Marine Corps training requirements with AFATDS (Advanced Field Artillery Tactical Data System). Together these systems will be interoperable and will allow for mission planning, mission rehearsal and concept evaluation in a valid synthetic environment with objective, timely feedback. Through live, virtual and constructive simulation, the Marine Corps will have the means to train jointly, educate, develop doctrine and tactics, formulate and assess operational plans, assess warfighting situations and define operational requirements.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	3.137	0.595	0.000
RDT&E Articles Qty			

JSIMS: Provide technical expertise to the US Army, US Navy and US Air Force in the development of USMC specific requirements. Participate in Federate Integration Event 4 and 5 and Functional Assessment 2. Completed Version Release Milestone (VRM) 1.0 in FY03.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.350	0.000	0.000
RDT&E Articles Qty			

DVTE: Transition DVTE S&T prototype developed by TECOM/NAVSEA for USMC acquisition - Map prototype design functions to requirements and evaluate system operational maturity.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.527	6.534	0.000
RDT&E Articles Qty			

CLASS: Map system design functions to requirements. Evaluation of system design and software for CLASS subsystems. Development of Instructor Management System and software support. system. Develop highest priority database; develop Howitzer Interface Function (HIF) and Master Control Station (MCS) subsystems; complete closed-loop development. Complete development and integration of hardware and software; complete garrison and shipboard versions; complete prototype.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	3.263	4.150	3.125
RDT&E Articles Qty			

CACCTUS: Research Development Test and Evaluation (RDT&E) efforts. Upgrade and enhance one site of Command Arms Staff Trainer (CAST) software.

			DATE:				
PROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME							
PROGRAM E	LEMENT NUMBER AND NA	ME	PROJECT NUMBER AND	PROJECT NUMBER AND NAME			
0206313M M	arine Corps Communicatio	n Systems	C2315 Training Devices/	Simulators			
	FY 2003	FY 2004	FY 2005				
	0.000	0.538	0.996				
		0206313M Marine Corps Communicatio FY 2003		PROGRAM ELEMENT NUMBER AND NAME Description			

MILES: Develop and integrate ground position location into fielded MILES 2000 equipment. Integrate MK19 40 mm machine gun and other new ground weapons systems into existing MILES 2000 inventory.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.461	0.742
RDT&E Articles Qty			

SESAMS: Develop and integrate SESAMS capability into MILES 2000 to create compatibility between two systems.

(U) Total \$ 7.277 12.278 4.863

(U) PROJECT CHANGE SUMMARY:

	FY2003	F Y 2004	FY2005
(U) FY 2004 President's Budget: (U) Adjustments from the President's Budget:	8.580	12.423	8.317
(U) Congressional/OSD Program Reductions			-3.432
(U) Congressional Rescissions			
(U) Congressional Increases			
(U) Reprogrammings	-1.151		
(U) SBIR/STTR Transfer	-0.177		
(U) Minor Affordability Adjustment	0.025	-0.145	-0.022
(U) FY 2005 President's Budget:	7.277	12.278	4.863

- (U) Funding: Adjustments above include JSIMS \$944K and CACCTUS \$207K reprogrammings as Cost of War bill payers.
- (U) Funding: Changes in FY05 are due to cancellation of CLASS program and \$22K affordability adjustment.
- (U) Schedule: Not Applicable.(U) Technical: Not Applicable.

EXHIBIT R-2a, RDT&E Project Justification	HIBIT R-2a, RDT&E Project Justification									
	PPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME									
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUM	MBER AND N	NAME							
RDT&E, N /BA-7 Operational Sys Development	0206313M Mari	206313M Marine Corps Communication Systems					C2315 Training Devices/Simulators			
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost	
(U) PMC, BLI# 653200 Trng Dev/Sims	18.187	63.518	24.214	18.766	13.635	13.598	10.998	Continuing	Continuing	

(U) Related RDT&E: Not Applicable

(U) D. ACQUISITION STRATEGY:

- (U) JSIMS Development efforts terminated on 30 Sep 03. FY04 will focus on orderly closeout of the program and inventory.
- (U) CLASS Awarded R & D to Aegis Technology, July 02 (CPFF). Program Cancelled in FY04 and out.
- (U) CACCTUS Competitive cost plus fixed fee contract (CPFF).
- (U) MILES Competitively award Cost Plus Incentive Fee (CPIF) development contract.
- (U) SESAMS Competitively award Cost Plus Incentive Fee (CPIF) development contract.

(U) E. MAJOR PERFORMERS:

Not Applicable for any programs with Training Devices/Simulators, C2315.

					DATE:							
	Exhibit F	R-3 Cost Analysis					Febru	ary 2004				
APPROPRIATION/BUDGET AC	TIVITY	PROGRAM ELE	MENT		PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational S	sys Develo	opment 0206313M Mar	ine Corps	Communi	cation Sys	tems	C2315 Tr	aining Dev	ices/Simul	lators		
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Software Dev - JSIMS	RCP	SPAWAR, San Diego, CA	13.495	1.830	12/02	0.000		0.000		0.000	15.325	15.32
Software Dev - JSIMS	MIPR	CECOM, FT Monmouth, NJ	0.000	0.111	11/02	0.000		0.000		0.000	0.111	0.11
Software Dev - JSIMS	WR	SPAWAR, San Diego, CA	3.134	0.478	11/02	0.595	12/03	0.000		0.000	4.207	4.20
Product Dev - MILES	RCP	SAAB & RUAG, Sweden	0.000	0.000		0.233	01/04	0.402	12/04	Cont.	Cont.	
Product Dev - SESAMS	RCP	SIMUNITIONS, Sweden	0.000	0.000		0.187	01/04	0.296	12/04	Cont.	Cont.	
Software Dev- CACCTUS	RCP	MCSC, Quantico, VA	1.814	0.000		0.649	12/03	0.000		0.000	2.463	2.46
Software Dev- CACCTUS	TBD	MCSC, Quantico, VA	2.102	0.000		2.000	03/04	0.274	03/05	Cont.	Cont.	
Subtotal Product Dev			20.545	2.419		3.664		0.972		Cont.	Cont.	
Remarks:		-	*	•	*	*	*	*	*	•		*
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Software Dev - JSIMS	RCP	PM TRASYS, Orlando, FL	0.000	0.614	12/02	0.000		0.000		0.000	0.614	0.614
SW Dev - Miles	RCP	SAAB & RUAG, Sweden	0.000			0.233	01/04	0.402	12/04	Cont.	Cont.	
SW Dev - SEASAMS	RCP	SIMUNITIONS, Sweden	0.000			0.187	01/04	0.297	12/04	Cont.	Cont.	
SW Dev/Sys Design -CLASS	MIPR	PEO STRI, Orlando FL	0.000	0.327	03/03	5.764	03/04	0.000		0.000	6.091	6.091
Software Devm-CACCTUS	RCP	MTS, San Diego, CA	8.853			0.646	06/04	2.851	03/05	Cont.	Cont.	
SW Dev, CACCTUS	RCP	NAWC, Orlando, FL	0.000	1.400	03/03	0.000		0.000		0.000	1.400	1.40
SW Dev, CACCTUS	MIPR	PEO STRI, Orlando FL	0.000	1.379	03/03	0.000		0.000		0.000	1.379	1.37
SW Dev, DVTE	RCP	PM TRASYS, Orlando, FL	0.000	0.280	03/03	0.000		0.000		0.000	0.280	0.28
Software Development-CACCTU		TBD	0.000			0.855	03/04	0.000		0.000	0.855	0.85
Subtotal SW Dev Support		1	8.853	4.000		7.685	30/31	3.550		Cont.	Cont.	0.00
Remarks:	ļ		1 2:222	1	<u> </u>	1	-	1 21222	-			-1
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or System/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
T & E - MILES	RCP	MCSC, Quantico, VA	0.000	0.000		0.051	01/04	0.142	12/04	Cont.	Cont.	
T & E - SESAMS	RCP	MCSC, Quantico, VA	0.000	0.000		0.069	01/04	0.111	12/04	Cont.	Cont.	
Dev Test & Eval -CACCTUS	MIPR	CECOM, FT Monmouth, NJ	3.294	0.000		0.000		0.000		0.000	3.294	3.29
Subtotal Dev T&E	1		3.294	0.000		0.120		0.253		Cont.	Cont.	1

						DATE:							
	Exhibit F	R-3 Cost Ana	alysis			February 2004							
APPROPRIATION/BUDGET AC	TIVITY		PROGRAM E	LEMENT		PROJECT NUMBER AND NAME							
RDT&E, N /BA 7 Operational S	ys Develo	pment	0206313M M	arine Corps	Communic	cation Sys	tems	C2315 Tra	aining Dev	ices/Simul	ators		
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or System/Item	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Requirements)	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Govt Engineering Spt-JSIMS	WR	NAWC, Orl	ando, FL	0.000	0.104	10/02	0.000		0.000		0.000	0.104	0.104
Program Spt - MILES	WR	MCSC, Qua	antico, VA	0.000			0.021	12/03	0.048	12/04	Cont.	Cont.	
Program Spt - SESAMS	WR	MCSC, Qua	antico, VA	0.000			0.018	12/03	0.040	12/04	Cont.	Cont.	
Govt Engineering Spt -CLASS	WR	NAWC, Orl	ando, FL	0.300	0.200	10/02	0.470	10/03			0.000	0.970	1.000
Contractor SW Spt-CLASS	RCP	MCSC, Qua	antico, VA	0.365			0.300	10/03			0.000	0.665	0.66
Contractor Engineering Suppt	WR	NAWC, Orl	ando, FL	0.450			0.000		0.000		0.000	0.450	0.450
Govt Engineering Suppt	WR	NAWC, Orl	ando, FL	1.159			0.000		0.000		0.000	1.159	1.159
Program Management Suppt	WR	NAWC, Orl	ando, FL	0.456			0.000		0.000		0.000	0.456	0.456
PM Spt, CACCTUS	WR	NAWC, Orl	ando, FL	0.000	0.484	03/03	0.000		0.000		0.000	0.484	0.484
Program Management Suppt	RCP	MCSC, Qua	antico, VA	1.767			0.000		0.000		0.000	1.767	1.767
PM Spt, DVTE	WR	NAWC, Orl	ando, FL	0.000	0.070	03/03	0.000		0.000		0.000	0.070	0.070
Subtotal Management Spt				4.497	0.858		0.809		0.088		Cont.	Cont.	
Remarks:													
Total Cost					7.277		12.278		4.863		Cont.	Cont.	.T

											DATE:		
EX APPROPRIATION/BUDGET ACTIVITY	hibit R-4/4a Schedul PROGRAM ELE		/Detai	I					PRO IE	CT N	IUMBER AI	Februar	y 2004
RDT&E, N /BA 7 Operational Sys Developme			s Com	munic	ation	Svster	ns					es/Simulato	ors
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Contract Award		2 Dec 9	96										
Version 1.0 Develop	ment								Feb 00-5	Sep 03			
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Federation Integration	n Event 2						-	May/Jur	02				
Federation Integration	n Event 3						_	Jul/Au	02				
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Federation Integration	n Event4							■ Oc	/Nov 02				
Maintenance Events								_	Jan/Jun ()3			
Version 1.0 VRM									Sep 03				
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Other Program Funding Summary													
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<u>u) rdt&e,n</u> (Jsims)			3.137		0.595		000	0.000		.000	0.000	0.000	3.732
U) PMC, BLI# 653200 Trng Dev/Sims (JSIMS)			0.001	0	0.000	0.0	000	0.000	0.	.000	0.000	0.000	0.001

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ADDRODDIATION/	Exhibi: BUDGET ACTIVITY	t R-4/4a Schedule F		<u>(il</u>			TDBO IECT	NUMBER A	Februa	ry 2004
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RDIGE, N /DA / C	JSIMS SCHEDULE DETA		FY 2003	FY 2004			FY 2007			
	Version 1.0 Software Developm		2Q	112007	1 1 2000	112000	112001	112000	112003	
	version 1.0 Software Developing	ient	2 CQ				 			
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	NUMBER AND NAME sining Devices/Simulators D8 FY09
CLASS PROGRAM SCHEDULE FY98 FY99 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY05	
MS (contract award) Tech. Reviews (SW) Gov't Acceptance Test LCCE Acquisition Strategy Development & Demo/ Prototype TEMP Production Award Production IOC FOC	08 FY09
FY98 FY99 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY05	08 FY09
MS (contract award) Tech. Reviews (SW) Gov't Acceptance Test LCCE Acquisition Strategy Development & Demo/ Prototype TEMP Production Award Production IOC FOC	08 FY09
Tech. Reviews (SW) Gov't Acceptance Test LCCE Acquisition Strategy Development & Demo/ Prototype TEMP Production Award Production IOC FOC	
Gov't Acceptance Test LCCE Acquisition Strategy Development & Demo/ Prototype TEMP Production Award Production IOC FOC	
LCCE Acquisition Strategy Development & Demo/ Prototype TEMP Production Award Production IOC FOC	
Acquisition Strategy Development & Demo/ Prototype TEMP Production Award Production IOC FOC	
Development & Demo/ Prototype TEMP Production Award Production IOC FOC	
Prototype TEMP Production Award Production IOC FOC	
Prototype TEMP Production Award Production IOC FOC	
Production Award Production IOC FOC	
Production Award Production IOC FOC	
Production IOC FOC	
Production IOC FOC	
IOC FOC	
FOC	
COMS Support	
Other Program Funding Summary FY 2003 FY 2004 FY 2005 FY 2006 FY 2007	<u>FY 2008</u> <u>FY 2009</u> <u>To Comp</u>
(APPN, BLI #, NOMEN) (U) RDT&E,N (CLASS) 0.527 6.534 0.000 0.000 0.000	0.000 0.000 7.06
(U) PMC, BLI# 653200 Trng Dev/Sims (CLASS) 0.000 0.000 0.000 0.000 0.000	
	3.333

							DATE:		
Exhibi APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEME		il			DDO IECT	NUMBER A	Februar	y 2004
RDT&E, N /BA 7 Operational Sys Development			nmunicatio	n Systems				es/Simulato	irs
CLASS SCHEDULE DETA		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Contract Award									
Preliminary Design Review (PD	DR)		1Q						
Critical Design Review (CDR)	,								
Development/Demonstration/P	rototype								
Test & Evaluation	,								
Production Award									
Initial Operational Capability (IC	DC)								
Full Operational Capability (FO									

EXHIBIT	R-2a, RDT&E Pro	ject Justifica	tion			DATE:	-		
							Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT NUM	IBER AND NA	ME		PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Systems Dev	0206313M Ma	rine Corps C	ommunication	ns Systems		C2510 MAGT	F CSSE & SE		
								Cost to	Total
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program
Project Cost	3.215	22.238	18.034	10.611	8.123	8.598	8.633	Cont	Con
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) The MAGTF Combat Service Support Element & Supporting Establishment (CSSE & SE) consists of mutually supporting Logistics Information Technology (IT) programs that support force deployment, planning, and execution; sustainment and distribution; and contribute to the Combatant Commander's Common Operating Picture (COP) to support rapid accurate decision making.
- 1. The ATLASS PIP program funds the improvement of the existing ATLASS II+ software as well as the migration of base and station (non-deployable) USMC intermediate and consumer level supply and maintenance systems from a mainframe environment into a personal computer application using a network client-server architecture. The ATLASS PIP consolidates the total force intermediate and consumer level supply and maintenance information management functions into a single material management system. ATLASS PIP enhances ATLASS II+, retires existing mainframe legacy applications in use by the bases and stations, and improves logistic support to the operating forces. ATLASS PIP retains the flexibility to exploit existing commercial and government off-the-shelf software. This system remains compliant with the MAGTF C4I concept, GCCS COE, and published DOD standards for open systems architecture. FY03 is the last year of execution for ATLASS PIP.
- 2. TCAIMS II provides the hub for the OSD mandated Joint transportation suite of systems that will provide mobility and sustainment capability to all services and bring the Marine Corps into compliance with Department of Defense Reform Initiative 54. TC-AIMS II is a Joint transportation and deployment Automated Information System (AIS) supporting the DOD mission areas of mobility and sustainment. It will replace two of our MAGTF LOG AIS applications over a parallel transition starting in FY04. TC-AIMS II will be used by Command Elements, Traffic Management Offices (TMO), and all operating forces to automate the processes of planning, organizing, coordinating, and controlling deployment, redeployment, and sustainment activities worldwide, in peace as well as during contingencies. It provides modernized, scaleable, integrated, and easily deployable AIS that support reengineered deployment and business processes throughout DOD. TC-AIMS II is the key enabler towards Force Deployment Planning and Execution. It is the source system for In-Transit-Visibility (ITV) data, which provides Combatant

Commanders and Components with critical visibility of items in the transportation pipeline. TC-AIMS II links all DOD Component unit movement and Installation Transportation Office/Traffic Management Office (ITO/TMO) functionality into a single transportation management system. It is a Joint ACAT 1A(M) program, with the USMC portion being handled as an ACAT III.

- 3. MAGTF CSSE&SE: The CSSE Shared Data Environment is a cornerstone concept of the Integrated Logistics Capability. It will incorporate data warehousing technologies and products to provide one-stop shopping for data supporting CSSE/SE decision-making processes. It will stage CSSE/SE data and integrate decision support tools (DST) to enable command and control (C2), situational awareness, and total asset visibility at all levels of command, from the Combatant Commander to the Company Commander. The establishment of the CSSE SDE will eliminate the need for individual applications to perform these tasks for themselves and will contribute to a more cost-effective, efficient application development environment. This program, Sharded Data Environment (SDE), has moved from Project C2906, PE 0605013M, MC Information Technology in FY04 and beyond.
- 4. Common Computer Resources (CCR) Marine Common Hardware Suite (MCHS) Centralizes and standardizes management and acquisition of all Tactical common computer hardware and infrastructure by adopting the Joint Defense Information Infrastructure (DII) Common Operating Environment (COE) with consolidated Integrated Logistics Support. Ensures the environment remains in synchronization with computer hardware technology hardware improvements. The mission supports the Commandant's Planning Guidance and the Marine Corps Master Plan. Funding for this program in FY 02 and FY03 is found under Project C2277 of this PE.
- 5. Global Combat Support System (GCSS)MC is the physical implementation of the enterprise information technology architecture designed to support both improved and enhanced MAGTF Combat Service Support functions and MAGTF Commander and Combatant Commander/Joint Task Force (JTF) combat support information requirements. As such, GCSS-MC is not a single system but a portfolio of information technology capabilities tied to discrete performance measures that support required combat service support mission objectives.

EXHIBIT R-2	2a, RDT&E Project Justification	DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Systems Dev	0206313M Marine Corps Communications Systems	C2510 MAGTF CSSE & SE

The ILC Analysis provided the foundation for logistics transformation within the Marine Corps and established a compliance response to Defense Reform Initiative Directive (DRID) 54, directing that logistics transformation be accomplished throughout the service components. Immediately following the guidance of DRID 54, the GCSS-Capstone Requirements Document (CRD) was approved by the JROC. The GCSS CRD requires an IOC in FY04 and FOC in FY06. Specific ILC objectives are desired by 2004. GCSS-MC is the IT solution to accomplish the transformation and GCSS objectives. GCSS-MC is an integrated set of capabilities. The capabilities will be implemented within a bottoms-up (programs of record) approach within a portfolio of systems. The portfolio of systems contributes to the primary capabilities of GCSS-MC. External portfolios will also contribute secondary to GCSS-MC capabilities through integration strategies. Primary capabilities are supply chain and combat service support oriented.

Secondary capabilities and aspects of some of the above are achieved through integration with the Manpower, Acquisition and other portfolios as well as integration with Joint and other Service systems. This integration will migrate the current Shared Data Environment (SDE), Total Force Structure Management System (TFSMS), and Automated Information Technology (AIT) to an integrated Detailed Planning and Current Operations System over the long-term. The capabilities are to be matched against systems remaining after the system realignment and categorization process and then assessed for compliance, alignment and cost effectiveness versus readily available COTS and GOTS products. The GCSS-MC portfolio seeks to most effectively achieve the mandated requirements through provisioning of the capabilities not extending specific systems.

GCSS-MC is the IT solution for logistics transformation being developed by the ILC. The ILC Analysis was completed during an 18-week engagement beginning in late October 1998 to early February 1999. This analysis concluded with a high-level Business Case Analysis (BCA). The BCA concluded conservatively that accomplishing the ILC actions (including re-engineered IT among others) would reduce Marine Corps inventories and reduce support requirements allowing the shifting of (2000) Marines from logistics to the battlefield by 2004 (given the current timelines). ILC action will also result in: lighter, more flexible and easier to move MAGTF; Higher CSS responsiveness: reduced stocks and CSS footprint inside the MAGTF; Less equipment for Warfighter to manage; Rapidly scaleable and deployable CSS units that have worldwide inventory visibility. Access to more reliable, accurate and actionable information that clarifies the logistics situational awareness; near real time visibility of requests for products and services allowing higher confidence and trust in logistics; and the ability to operate with greater certainty.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.352	0.000	0.000
RDT&E Articles Qty	0.002	0.000	0.000
ATLASS PIP: Subsystem/components development at	nd concept/tech demonstration of new sys	stem concepts associated with CO	OTS replacement.
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	2.274	0.000	0.000
RDT&E Articles Qty			
ATLASS PIP: Incremental software development (EA	I/APIs) and conduct software testing of re	eplacement COTS packages.	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	1.173	0.701
RDT&E Articles Qty			
CCR/MCHS: Environmental testing of CISC/RISC w	orkstations.	•	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.605	0.580
RDT&E Articles Qty			
CCR/MCHS: Environmental testing of CISC/RISC se	rvers.	•	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.299	0.241
RDT&E Articles Qty			
CCR/MCHS: Technology Insertion.			

EXHIBIT	TR-2a, RDT&E Project Justification		DATE:
			February
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NA		PROJECT NUMBER AND NA
OT&E, N /BA-7 Operational Systems Dev	0206313M Marine Corps Communication		C2510 MAGTF CSSE & SE
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
complishment/Effort Subtotal Cost	0.046	0.299	0.300
DT&E Articles Qty			
GCSS/AIT: Development of software with AI	IT capabilities in conjunction with the DOD AIT impl	lementation plan.	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
complishment/Effort Subtotal Cost	0.000	0.550	0.500
DT&E Articles Qty			
GCSS/SDE: Program Support for configuration	on control board, systems integration, data architecture	e, integrated process team(s), and strategic plan update.
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
complishment/Effort Subtotal Cost	0.000	0.350	0.000
DT&E Articles Qty			
GCSS/SDE: Analysis and survey of ILC Proof	f-of-concept (POC) implementation.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
complishment/Effort Subtotal Cost	0.000	0.425	0.400
T&E Articles Qty	0.000	01.120	0.100
	ILC/GCSS MC data warehouse, reference data, and in	formation exchange reposit	tory.
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
complishment/Effort Subtotal Cost	0.000	0.350	0.500
T&E Articles Qty	0.000	0.000	0.000
GCSS/SDE: Development of supporting systematics.	ems architecture to support ILC POC		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
complishment/Effort Subtotal Cost	0.000	0.255	0.200
OT&E Articles Qty	0.000	0.200	0.200
, , , , , , , , , , , , , , , , , , ,	into Data Management and Interoperability Repository	7	
, , , , , , , , , , , , , , , , , , ,		•	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
complishment/Effort Subtotal Cost	0.000	0.550	0.300
DT&E Articles Qty			
<u>-</u>	nvironment relating to ILC POC: to include GCSS M		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
complishment/Effort Subtotal Cost	0.000	0.325	0.300
DT&E Articles Qty			
GCSS/SDE: Integrate ILC POC systems/data	into the Integrated Logistics Data Model.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
complishment/Effort Subtotal Cost	0.000	1.200	1.200
DT&E Articles Qty			

EXHIBIT	R-2a, RDT&E Project Justification		DATE:	
			Februa	ary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND N	AME	PROJECT NUMBER AND	NAME
RDT&E, N /BA-7 Operational Systems Dev	0206313M Marine Corps Communication	ons Systems	C2510 MAGTF CSSE & SI	E
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.755	0.700	1
RDT&E Articles Qty				1
GCSS/SDE: Design and development of SDE	ILC/GCSS MC Information Exchange repository.			_
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.455	0.409	
RDT&E Articles Qty				
GCSS/SDE: Data analysis and Cleansing of le	gacy data for successive implementation of GCSS N	MC COTS products.	•	-
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	1.000	0.700	
RDT&E Articles Qty				
GCSS-MC Enabler/WarPortal: Preparation	of development and test servers and sytems integrati	ion, demonstration and testin	g.	_
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.900	0.300	
RDT&E Articles Qty				
GCSS-MC Enabler/WarPortal: Integration s	services for data center build out, Operational Tests a	and establishment of product	ion operatons.	-
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.100	0.000	
RDT&E Articles Qty				
GCSS-MC Enabler/WarPortal: Conference	room pilots and functional testbeds for product conf	iguration and development p	lanning.	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	3.000	0.000	
RDT&E Articles Qty				1
GCSS-MC Supply Chain/LSM: Order Mana	gement Capability to plan, direct, monitor, and contra	rol processes related to custo	mer orders, manufacturing orders ar	nd purchase orders.
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005]
Accomplishment/Effort Subtotal Cost	0.000	2.000	3.395	1
RDT&E Articles Qty				
	e Management Capability, which includes all types of	of maintenance, repair and or	verhaul functions and is a core capal	bility for replacing ATLASS
II+.				-
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	1.079	0.697	
RDT&E Articles Qty				_
	gement Capability - The business functions of devel			ermining cost, acquiring funds
distributing/controlling funds, tracking costs and	d obligations, cost capturing and reimbursement, and	d establishing management c	osts.	

EXHIBIT	R-2a, RDT&E Project Justification		DATE:	
			Febru	ıary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND	NAME	PROJECT NUMBER AND	NAME
RDT&E, N /BA-7 Operational Systems Dev	0206313M Marine Corps Communic	ations Systems	C2510 MAGTF CSSE & S	SE
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	2.746	1.502	
RDT&E Articles Qty				
GCSS-MC Supply Chain/LSM: Inventory Co	ontrol and Warehouse Management - basic funct	tions required to replace ATLAS	S II+.	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	2.772	1.944	
RDT&E Articles Qty				
GCSS-MC Supply Chain/LSM: Basic Service	e Fulfillment Capability, which is the ability to	manage user requests for CSS se	rvices.	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	\neg
Accomplishment/Effort Subtotal Cost	0.000	0.500	0.407	7
RDT&E Articles Qty				
GCSS-MC Supply Chain/LSM: Data wareho				<u> </u>
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.250	
RDT&E Articles Qty				
GCSS-MC Supply Chain/LSM: Logistics For				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.000	1.000	
RDT&E Articles Qty				
GCSS-MC Decision Support/CLC2S: Enhan	cements to meet additional user and architecture	e requirements, and integrate wit	h GCSS-MC portfolio.	·
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.301	
RDT&E Articles Qty				
GCSS-MC Decision Support/CLC2S: Service	es to transition S&T system into institutional su	pport.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.120	
RDT&E Articles Qty				
GCSS/TFSMS: User requested enhancements.		·	·	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	\neg
Accomplishment/Effort Subtotal Cost	0.277	0.542	0.000	7
RDT&E Articles Qty				
TC-AIMS II: Conduct operational test and eva	aluation of TC-AIMS II. Blocks per JTMO sche	ecule. TC-AIMS II consists of 7	blocks, each block is individually	evaluated during an IOT&E ar
has a separate Milestone III decision.	•			Č
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	0.000	1.087	
RDT&E Articles Qty				7
<u> </u>	re enhancement to TC-AIMS II to provide interfa	aca canability with USMC system	me	

	ject Justification	DATE:	DATE:		
			Febru	ıary 2004	
PROGRAM EI	LEMENT NUMBER AND NA	PROJECT NUMBER AND NAME			
0206313M Ma	rine Corps Communication	ns Systems	C2510 MAGTF CSSE & S	SE	
	FY 2003	FY 2004	FY 2005		
	0.266	800.0	0.000		
		0206313M Marine Corps Communication FY 2003 0.266	0.266 0.008	PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME 0206313M Marine Corps Communications Systems C2510 MAGTF CSSE & S FY 2003 FY 2004 FY 2005 0.266 0.008 0.000	

MAGTF CSSE & SE: Design & development of web-enabling technologies, messaging backbone, and integration with air/ship/rail load and joint planning & execution tools. Conduct efforts to migrate legacy system data and interfaces to the Shared Data Environment.

18.094

22 228

10 024

(C) 10tai \$		3.213		44.430	10.034
(U) PROJECT CHANGE SUMMARY:	FY 2003	FY 2004	FY 2005		

4.376

-0.099

2 215

23.488

- (U) Adjustments from the President's Budget:
 - (U) Congressional Program Reductions
 - (U) Congressional Rescissions
 - (U) Congressional Increases

(U) FY 2004 President's Budget:

(II) Total \$

- (U) Reprogrammings -1.062 -1.000
- (U) SBIR/STTR Transfer
- (U) Minor Affordability Adjustments -0.250 -0.060 **(U) FY 2005 OSD Budget:** 3.215 22.238 18.034
 - CHANGE SUMMARY EXPLANATION:
 - (U) Funding: See Above.
 - (U) Schedule: TC-AIMS II Schedule change is due to inadequate IOT&E results, during November and December 2001.
 - (U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
PMC BLI 464100 TC-AIMS II	4.185	0.000	0.679	0.000	0.000	0.000	0.000	0.000	4.864
PMC BLI 463000 CCR	30.720	61.062	61.989	70.980	87.812	88.869	103.734	0.000	505.166
PMC BLI 461400 GCSS	0.000	8.017	8.557	4.152	0.916	0.629	0.213	Cont.	Cont

- (U) Related RDT&E: Not Applicable.
- (U) D. ACQUISITION STRATEGY:

ATLASS PIP: The current acquisition strategy is to stay with SSC Chesapeake, the developer for ATLASS II+ for development work.

TC-AIMS II: This is a joint program with the Army (PEO STAMIS). The purchase of computers will be made by PMIT and the peripherals will be made off a standard government list. The integration of the system will be performed by Global Systems, Inc. under a SPAWAR contract. TC-AIMS II is designed using a modular concept which will incorporate related functionality within a specific block. All of the block/modules will be individually tested (DT and OT), and fielded incrementally until the complete integration in 4th Qtr FY08. Common Computer Resourses (CCR): To ensure computer hardware in the operating forces keeps pace with industry computer hardware technical improvements.

EXHIBIT R-2	a, RDT&E Project Justification	DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Systems Dev	0206313M Marine Corps Communications Systems	C2510 MAGTF CSSE & SE

GCSS-MC will pursue an evolutionary acquisition (EA) strategy in order to field an operationally suitable and supportable capability in the shortest time possible. This flexible strategy compliments the overwhelming support GCSS-MC receives from the entire decision making chain. EA offers the fastest method to field this highest of EA priorities and allows for requirements to be time-phased as the users become more familiar with the fielded system strengths and weaknesses. In addition to quicker fielding, an EA approach is particularly well suited to software intensive programs and offers these benefits: rapidly delivers an initial capability with the explicit intent of delivering continuously improved capability in the future and reduces "cycle time" from identification of emergent user requirements, priorities and fielding. EA ensures that systems are not technologically obsolete before fielding and that money is spent only on prioritized user requirements.

The GCSS-MC acquisition strategy is divided into two phases: optimization and modernization. The optimization phase, begun in FY01, will run through FY02, consists of planning, concept validation, operational architecture development, modeling, and Portal demonstrations. There are (2) initiatives, Autonomic Logistics (AL) and Logistics Command and Control (LC2), currently in the ACTD phase managed by ONR. The intent is to rapidly transition these advanced technology demonstrations into the GCSS Portfolio of systems, e.g., WebPortal, Joint Force Requirements Generator II (JFRG II), Common Logistics Command and Control System (CLC2S), beginning in FY04. The modernization phase begins at milestone C, is planned for FY03-FY09, and after initial fielding, will consist of a repetitive cycle of software improvement based on user feedback, testing, training, installation and fielding of subsequent block upgrades. Minor software upgrades will be released on a six month cycle. More substantial software improvement/system upgrade blocks will be fielded annually, as required and will include in addition to emergent user priorities, advanced technology improvements and expanded functionality. Preliminary assess

SRAC validation activities and recommendations, and Portal demonstrations. Tentative milestone dates are for MS B during the 1st quarter FY03 and MS C during the 4th quarter FY04, with fielding to begin in the latter part of FY04 with continued block upgrades thereafter. IOC is initially planned to be Portal capabilities, to include divesture of ATLASS I. FOC is validated when all Marine Corps ground components are using capabilities provided by GCSS-MC to include formal schools, and selected Marine Reserve Components. Exact milestone dates and criteria for IOC and FOC will be negotiated with the MDA as the acquisition strategy evolves.

(U) E. MAJOR PERFORMERS:

ATLASS PIP

FY03 - Stanley Associates, EV software (COTS) development and testing.

TC-AIM II

- FY03 NWSC, Crane, IN, Conduct IOT&E supporting MCOTEA. Support includes scenario development, test support, data reduction, input to test requirements, Nov 2002
- FY04 NWSC, Crane, IN, Conduct IOT&E supporting MCOTEA. Support includes scenario development, test support, data reduction, input to test requirements, Nov 2003
- FY05 Contracting information is not available at this time; to be determined.

MAGTF CSSE &SE

FY03 - Stanley Associates, Provide technical and functional expertise to develop the functionality in the GCSS MC Expanded Validation Oracle 11i Environment

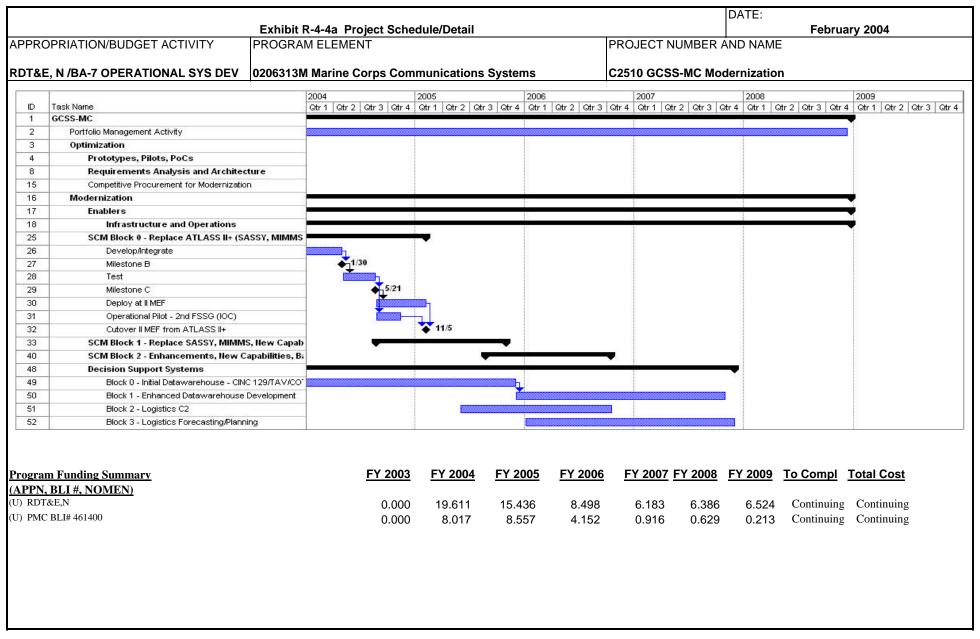
CCR/MCHS

- FY04 NWSC, Crane, IN, Environment testing of servers and workstations, March 2004.
- FY05 NWSC, Crane, IN, Inserting new technology into servers and workstations, Jan 2005.

GCSS

- FY04 This is a new start program. Contracting information will be determined at a later date.
- FY05 Contracting information will be determined at a later date.

				OHOL/	433IFIE								
							DATE:		_				
Exhibit R-3 Cost Analysis	A O T I) (T) (Inn	ODANA EL EMENT					 DDO EO		ebruary 20			
APPROPRIATION/BUDGET			OGRAM ELEMENT						T NUMBER		ΛΙΕ		
RDT&E, N /BA-7 Operation			6313M Marine Corps		cations Sy			C2510 MAGTF CSSE S&E					
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05		L	Target
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
A.T. A.G. D.D.	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
ATLASS PIP	WR	SSC Chesapeak		2.093							Cont	. Cont.	
ATLASS PIP	RCP	MCSC, Quantico	·	2.709							Cont	. Cont.	
ATLASS PIP	RCP	MCSC, Quantico			2.132	04/03					Cont	. Cont.	
TC-AIMS II	C/FFP	MCSC, Quantico	, VA	0.000					1.087	01/05	Cont	. Cont.	
MAGTF CSSE & SE	C/FFP	Various		0.726			0.008				Cont	. Cont.	
CCR/MCHS	WR	NSWC, Crane, I	ndiana	0.000	0.000		0.904		0.821	01/05	Cont	. Cont.	
GCSS LSM	TBD	TBD		0.000			12.097		7.195		Cont	. Cont.	
GCSS Warfighter Portal	TBD	TBD		0.000			2.000	01/04	1.000		Cont	. Cont.	
GCSS CLC2S	TBD	TBD		0.000					1.301	01/05	Cont	. Cont.	
GCSS/SDE	TBD	Various					3.405	04/04	3.800	04/05	Cont	. Cont.	
GCSS/TFSMS	TBD	TBD							0.120	01/05	Cont	. Cont.	
Subtotal Product Dev				5.528	2.540		18.414		15.324		Cont	Cont.	
Remarks:		•			,	,	•	•					
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05		1	Target
out outagemen	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
GCSS/SDE	TBD	Various		000.	000.	Date	1.810		1.709		0.000		
GCSS/ AIT	TBD	TBD			0.046	02/03	0.299		0.300		0.000		
Subtotal Support				0.000	0.046		2.109		2.009			4.164	ļ
Remarks:				ı				ı					1
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			Target
Cost Catogorico	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
CCR/MCHS	WR	NSWC, Crane In	diana	0.000			1.173		0.701	03/05	Cont	. Cont.	
TC-AIMS II	WR	NSWC, Crane, In		0.216		12/02	0.442				0.000		
TC-AIMS II	MIPR	CECOM		0.063	0.070		0.100				0.000		
TC-AIMS II	WR	NSWC, Crane, I	ndiana	0.584							0.000	0.584	
Subtotal T&E				0.863	0.277		1.715		0.701		Cont	. Cont.	
Remarks:		1		0.000	V.=	I		l		1		.,	· I
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			Target
catogo	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
ATLASS PIP	WR	MCSC, QUANTI	CO. VA	0.063	0.352		1		1		0.000	-	
Subtotal Management		555, 95,1111	· · · · · ·	0.063			0.000		0.000	t	0.000		
Remarks:		L		1.000		1	1 5.500	1	1 5.500	1	1 5.500	30	1
Total Cost					3.215		22,238		18.034		Cont	. Cont.	



			DATE:
	Exhibit R-4-4a Project Schedule/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER A	AND NAME
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communications Systems	C2510 GCSS-MC Mod	dernization

GCSS-MC (Modernization: SCM, Data warehouse, Log C2)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
SCM Block 0 - Replace ATLASS II+								
Develop/Integrate			2nd Qtr					
Milestone B			2nd Qtr					
Test			2nd Qtr					
Milestone C			3rd Qtr					
Deploy at II MEF			3rd Qtr +++	++++				
Operational Pilot - 2nd FSSG (IOC)			3rd Qtr +++	++++				
Cutover II MEF from ATLASS II+ SCM Block 1 - Replace SASSY, MIMMS at I MEF, New Capabilities and Enhancements			3rd Qtr +++	1st Qtr ++++				
SCM Block 2 - Enhancements, New Capabilities All MEFs, Bases, Posts and Stations				3rd Qtr +++	++++++			
Decision Support Systems								
Block 0 - Initial Datawarehouse - CINC 129/TAV/COTS			1st Qtr++++++++++++++					
Block 1 - Enhanced Datawarehouse Development			4th Qtr +++++++++++++		+++++			
Block 2 - Logistics C2	istics C2 2nd Qtr +++++++							
Block 3 - Logistics Forecasting/Planning			1st Qtr ++++++++++++					

EXHIBI*	EXHIBIT R-2a, RDT&E Project Justification									
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUMBER AND NAME									
RDT&E, N /BA-7 OPERATIONAL SYS DEV 0206313M Marine Corps Communication Systems C							C3099 RADAR SYSTEMS			
								Cost to	Total	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program	
Project Cost	0.000	20.141	51.552	48.008	38.842	6.099	5.076	Cont	Cont	
DT&E Articles Qty										

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- 1. The Aviation Radar (AN/TPS-59) is a "congressionally mandated" national asset. It is the only fielded ground-based sensor which can detect and track Air Breathing Targets (ABT) within 300 nautical miles, as well as Theater Ballistic Missiles (TBM) at ranges of 400 nautical miles for 360 degrees up to one million feet in elevation. Highly Expeditionary Long Range Air Surveillance Radar (HELRASR) is the modernization initiative to replace the AN-TPS 59 Radar. FY02 and FY03 funding are in Project C2273.
- 2. The Ground Weapons Locating Radar (GWLR) is an expeditionary radar that can acquire threat indirect fire systems including mortars, artillery, rocket and missile systems. The principle functions of the system will be to detect, track, classify and accurately determine the origin of enemy weapons platforms. The GWLR will also be capable of registering and adjusting friendly indirect fire while simultaneously maintaining hostile surveillance.
- 3. The Multi-Role Radar System (MRRS) will provide lightweight, expeditionary, three-dimensional radar capable of detecting Cruise Missiles (CMs), fixed and rotary winged aircraft, Unmanned Aerial Vehicles (UAVs), and will also provide an enhanced Combat Identification (CID) capability. The system will augment the AN/TPS-59(V)3 sensor coverage and will be integrated into the Navy's Cooperative Engagement Capability (CEC) and the Marine Corps Composite Tracking Network (CTN). Additionally, the system shall provide Air Traffic Control with real time surveillance coverage of all air activity within the assigned area of responsibility and will support the situational awareness and cueing for Stinger, Avenger, and CLAWS.
- 4. The Short/Medium Range Air Defense Radar will develop engineering change proposals related to improved system performance with the specific purpose of meeting increased fleet operational requirements. As part of this effort, AN/TPS-63 modifications and system improvements will be researched and analyzed to determine which complement existing components to preclude an expensive USMC investment in solid-state radar technology. FY02 and FY03 funding are in Project C2278.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

FY 2003	FY 2004	FY 2005
0.000	4.628	4.653
provements and DMS issues.		•
FY 2003	FY 2004	FY 2005
0.000	1.286	0.549
:		•
FY 2003	FY 2004	FY 2005
0.000	2.110	0.000
egy for modernization initiative.		•
FY 2003	FY 2004	FY 2005
0.000	0.050	0.000
	Provements and DMS issues. FY 2003 0.000 FY 2003 0.000 egy for modernization initiative. FY 2003	0.000 4.628

EXHIB	IT R-2a, RDT&E Projec	t Justification		DATE:
				February 200
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEME	ENT NUMBER AND NAM	E	PROJECT NUMBER AND NAME
RDT&E, N/BA-7 OPERATIONAL SYS DEV	0206313M Marine	Corps Communication	Systems	C3099 RADAR SYSTEMS
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.150	0.000
RDT&E Articles Qty				
HELRASR (Modernization): Develop a Syst	tem Safety Authorization A	greement (SSAA) for moder	nization initiative.	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.438	0.982
RDT&E Articles Qty				
HELRASR (Modernization): In-house progra	am management/governmen	nt expense for modernization	initiative.	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.300	0.000
RDT&E Articles Qty				
HELRASR (Modernization): Conduct a Syst	em Threat Assessment for	modernization initiative.		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.150	0.000
RDT&E Articles Qty				
HELRASR (Modernization): Develop a Test	& Evaluation Master Plan	(TEMP) for modernization i	nitiative.	<u> </u>
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.750	0.250
RDT&E Articles Qty				
HELRASR (Modernization): Request for Pro	oposal (RFP) development t	for modernization initiative.		<u> </u>
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.566	0.441
RDT&E Articles Qty				
HELRASR (Modernization): Contractor serv	vice support.			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.000	9.800
RDT&E Articles Qty				
HELRASR (Modernization): System develop	ment and demonstration fo	r modernization initiative.		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Qty				

AN/TPS-59: Efforts funded in FY02 and FY03 under Project C2273 of this PE. Demonstrate potential antenna technology/slotted waveguide antenna (FY02 \$5.907); Develop Engineering Change Proposal (ECP) to incorporate electronic protection (FY02 \$1.612); Develop ECP to incorporate new transmitters for the antenna (FY02 \$1.500); ECP false alarm adaption software (FY02 \$1.098); Develop ECP for software and hardware improvements (FY03 \$1.915); Develop AFAR Software (FY03 \$1.500); Investigate Advanced Technologies (FY03 \$2.100).

EXHIBI	IT R-2a, RDT&E Proj	ect Justification		DATE:	
				February 200	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELE	MENT NUMBER AND NAM	E	PROJECT NUMBER AND NAME	
RDT&E, N/BA-7 OPERATIONAL SYS DEV	0206313M Mari	ne Corps Communication	Systems	C3099 RADAR SYSTEMS	
COST (\$ in Millions)	·	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.000	
RDT&E Articles Qty					
CWAR: Efforts funded in FY02 and FY03 u	ınder Project C2278 of	this PE. Developmental Test	and Evaluation(FY02 \$0.12	(1) and (FY03 \$0.211); Development of En	gineer Design Model
(FY02 \$0.124); Program management support (FY02 \$0.025).	-		-	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000	0.325	0.000	
RDT&E Articles Qty		0.000	0.020	5.000	
GWLR: Refinement of ORD, Acquisition Strate	egy. Acquisition Baselir	ne Agreement, and Life Cycle (Cost Estimate.		
•	ogj, i requisition Busein	•		EV 2005	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost		FY 2003 0.000	FY 2004 1.169	FY 2005 1.600	
RDT&E Articles Qty		0.000	1.109	1.000	
GWLR: Test and evaluation of Marine Corps	a assimum and a andi assumation	a of the AN/TDO 47			
-	equipment configuration				
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000	0.188	0.201	
RDT&E Articles Qty					
GWLR: Program management support.					
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000	0.000	0.272	
RDT&E Articles Qty					
GWLR: Development of Configuration Manag	gement Plan and ILS Pla	n.			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000	3.764	0.000	
RDT&E Articles Qty					
MRRS: Developmental test and evaluation/risk	k reduction. Funding (\$	0.633) in FY03 for this effort is	s provided under Project C22	278 of this PE.	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000	0.800	0.000	
RDT&E Articles Qty					
MRRS: Study on the reliability of the fourth m	nission area - counter bat	ttery. Funding (\$198K) in FY0	3 for this effort is provided to	under Project C2278 of this PE.	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000	2.170	0.865	
RDT&E Articles Qty					
MRRS: Program management support. Fundir	ng (\$0.917) in FY03 for	this effort is provided under Pr	oject C2278 of this PE.		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000	0.500	0.000	
RDT&E Articles Qty					
ND I GE AITICIES QLY					

MRRS: Hardware design and development. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 3.000 RDT&E Articles Qty WRRS: Receiver/exciter design. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 4.675 RDT&E Articles Qty WRRS: Developmental testing. FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 2.000 RDT&E Articles Qty WRRS: System integration. FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 0.000 RDT&E Articles Qty O.000 0.000 0.000 0.000 MRRS: Efforts funded in FY03 under Project C2278 of this PE. Refinement of the ORD, Campaign Level Effectiveness Analysis, Analysis of Alternatives and Life Cycle Cost Estin (\$993K). FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132	EXHIBI	T R-2a, RDT&E Project Jus	tification		DATE:				
COST (S in Millions)									
COST (\$ in Millions)	APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	NUMBER AND NA	ME	PROJECT NUMBER AND NAME				
COST (S in Millions)	RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Cor	ps Communication	on Systems	C3099 RADAR SYSTEMS				
Accomplishment/Effort Subtotal Cost									
MRRS: Antenna design.									
MRRS: Antenna design. FY 2003 FY 2004 FY 2005						1			
COST (\$ in Millions)					-	_			
MRRS: Transmitter design.			FY 2003	FY 2004	FY 2005				
MRRS: Transmitter design. FY 2003 FY 2004 FY 2005	Accomplishment/Effort Subtotal Cost		0.000	0.000	3.500	1			
COST (\$ in Millions)	RDT&E Articles Qty					1			
COST (\$ in Millions)	MRRS: Transmitter design.	•				-			
MRRS: Software design and development.			FY 2003	FY 2004	FY 2005				
MRRS: Software design and development.	Accomplishment/Effort Subtotal Cost		0.000	0.000	11.000	1			
MRRS: Software design and development.						1			
COST (\$ in Millions)				•	•	_			
Accomplishment/Effort Subtotal Cost			FY 2003	FY 2004	FY 2005	7			
NRRS: Hardware design and development.									
MRRS: Hardware design and development. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 3.000 RDT&E Articles Qty WRRS: Receiver/exciter design. FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 4.675 RDT&E Articles Qty WRRS: Developmental testing. FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 2.000 RDT&E Articles Qty WRRS: System integration. FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 0.000 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 RDT&E Articles Qty 0.000 0.000 0.000 RDT&E Infinity Subtotal Cost 0.000 0.000 0.000 RDT&E Infinity Subtotal Cost 0.000 0.000 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 FY 2004 FY 2005				3.333		=			
COST (\$ in Millions)		ļ.		· !	!	=			
Accomplishment/Effort Subtotal Cost 0.000 0.000 3.000 RDT&E Articles Qty MRRS: Receiver/exciter design. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 4.675 RDT&E Articles Qty MRRS: Developmental testing. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 2.000 RDT&E Articles Qty 0.000 0.000 2.000 RDT&E Articles Qty 0.000 0.000 7.000 RDT&E Articles Qty 0.000 0.000 0.000 RDT&E Articles Gty 0.000 0.000 0.000			FY 2003	FY 2004	FY 2005				
NRRS: Receiver/exciter design. FY 2003 FY 2004 FY 2005									
MRRS: Receiver/exciter design. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 4.675 RDT&E Articles Qty TY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 2.000 RDT&E Articles Qty TY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty TY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty TY 2004 FY 2005 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132									
COST (\$ in Millions)					-	_			
Accomplishment/Effort Subtotal Cost RDT&E Articles Qty MRRS: Developmental testing. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty MRS: Developmental testing. FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost RDT&E Articles Qty MRRS: System integration. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty MRRS: Efforts funded in FY03 under Project C2278 of this PE. Refinement of the ORD, Campaign Level Effectiveness Analysis, Analysis of Alternatives and Life Cycle Cost Estin (\$993K). COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost O.000 O.135 O.132			FY 2003	FY 2004	FY 2005	7			
NRRS: Developmental testing. FY 2003 FY 2004 FY 2005									
MRRS: Developmental testing. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 2.000 RDT&E Articles Qty 0.000 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty 0.000 0.000 0.000 MRRS: Efforts funded in FY03 under Project C2278 of this PE. Refinement of the ORD, Campaign Level Effectiveness Analysis, Analysis of Alternatives and Life Cycle Cost Estin (\$993K). COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132									
COST (\$ in Millions)		ı		ı	1	_			
RDT&E Articles Qty MRRS: System integration. COST (\$ \text{in Millions}) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty MRRS: Efforts funded in FY03 under Project C2278 of this PE. Refinement of the ORD, Campaign Level Effectiveness Analysis, Analysis of Alternatives and Life Cycle Cost Estin (\$993K). COST (\$ \text{ in Millions}) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132	COST (\$ in Millions)								
MRRS: System integration. COST (\$ in Millions) Accomplishment/Effort Subtotal Cost NRRS: Efforts funded in FY03 under Project C2278 of this PE. Refinement of the ORD, Campaign Level Effectiveness Analysis, Analysis of Alternatives and Life Cycle Cost Estin (\$993K). COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132			0.000	0.000	2.000				
Accomplishment/Effort Subtotal Cost RDT&E Articles Qty MRRS: Efforts funded in FY03 under Project C2278 of this PE. Refinement of the ORD, Campaign Level Effectiveness Analysis, Analysis of Alternatives and Life Cycle Cost Estin (\$993K). COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132									
Accomplishment/Effort Subtotal Cost RDT&E Articles Qty MRRS: Efforts funded in FY03 under Project C2278 of this PE. Refinement of the ORD, Campaign Level Effectiveness Analysis, Analysis of Alternatives and Life Cycle Cost Estin (\$993K). COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132	MRRS: System integration.					- -			
RDT&E Articles Qty MRRS: Efforts funded in FY03 under Project C2278 of this PE. Refinement of the ORD, Campaign Level Effectiveness Analysis, Analysis of Alternatives and Life Cycle Cost Estin (\$993K). COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132						_			
MRRS: Efforts funded in FY03 under Project C2278 of this PE. Refinement of the ORD, Campaign Level Effectiveness Analysis, Analysis of Alternatives and Life Cycle Cost Estin (\$993K). COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132			0.000	0.000	0.000	_			
(\$993K). COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132									
COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132	MRRS: Efforts funded in FY03 under Project	ct C2278 of this PE. Refineme	ent of the ORD, Cam	paign Level Effectiveness Analys	sis, Analysis of Alternatives and I	Life Cycle Cost Estimate			
Accomplishment/Effort Subtotal Cost 0.000 0.135 0.132			EV 0000			7			
	COST (\$ in Millions)					4			
PINIXE Articles Oty	Accomplishment/Effort Subtotal Cost RDT&E Articles Qty		0.000	0.135	0.132	4			

EXHIBI	T R-2a, RDT&E Project Justification		DATE:		
A DDD O DD A TION ID O DT A OTH ITT			February 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NA		PROJECT NUMBER AND NA	AME	
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication		C3099 RADAR SYSTEMS		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.337	0.000		
RDT&E Articles Qty					
SHORT/MEDIUM RANGE AIR DEFENSE	RADAR: Developmental Test and Evaluation of the	e Frequency Generator assemb	bly.		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.325	0.000		
RDT&E Articles Qty					
SHORT/MEDIUM RANGE AIR DEFENSE	RADAR: Engineer Design Model of the Frequency	Generator assembly.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.382		
RDT&E Articles Qty					
	RADAR: Developmental test and evaluation of the				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.250		
RDT&E Articles Qty					
SHORT/MEDIUM RANGE AIR DEFENSE	RADAR: Engineer Design Model of the Low Leve	l Power Supply assembly.			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.000		
RDT&E Articles Qty					
SHORT/MEDIUM RANGE AIR DEFENSE	RADAR: Efforts funded in FY02 and FY03 und	er Project C2278 of this PE.	Developmental Test and Evaluation/Ris	sk Reduction (F	
and (FY03 \$999K); Development of Engineer I	Design Model (FY02 \$100K), and (FY03 \$150K); I	Program Management Support	(FY02 \$110K) and (FY03 \$110K).		
(U) Total \$ (C3099 Radar Systems)	0,000	20.141	51.552		
(U) Lotal & (C3099 Ragar Systems)					

EXHIBIT F	EXHIBIT R-2a, RDT&E Project Justification							DATE:					
	_					February 2004							
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEI	MENT NUMBE	R AND NAME		F	PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marii	ne Corps Com	munication Sy	stems	C	C3099 RADAR SYSTEMS							
(U) PROJECT CHANGE SUMMARY:	FY 2003	FY 2004	FY 2005										
(U) FY 2004 President's Budget:													
(U) Adjustments from the President's Budget:	0.000	19.810	57.762										
(U) Congressional/OSD Program Reductions													
(U) Congressional Rescissions													
(U) Congressional Increases													
(U) Reprogrammings		0.558											
(U) SBIR/STTR Transfer													
(U) Minor Affordability Adjustment		-0.227	-6.210										
(U) FY 2005 President's Budget:	0.000	20.141	51.552										
CHANGE SUMMARY EXPLANATION:													
(U) Funding: See Above.													
(U) Schedule: Not Applicable.													
(U) Technical: Not Applicable.													
(U) C. OTHER PROGRAM FUNDING SUMMARY:													
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost				
(U) PMC, BLI#465100, AN/TPS-59 Sustainment	0.000	18.077	24.466	7.461	11.933	0.000	0.000	Continuing	Continuing				
(U) PMC, BLI#465100, HELRASR (Modernization) (U) PMC, BLI#463600, AN/TPS-59 Sustainment	0.000 8.163	0.000 0.000	0.000 0.000	0.000 0.000	0.000	38.933 0.000	50.564 0.000	Continuing 0.000	Continuing 8.163				
(U) PMC, BLI#463600, AN/TPS-59 V3	3.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.000				
(U) PMC, BLI#464200, Grnd Weapon Locator Radar	0.000	0.052	0.862	0.820	28.785	0.285	0.295	Continuing	Continuing				
(U) PMC, BLI#462000, AN/TPQ-46/46A Upgrade	1.954	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.954				
(U) PMC, BLI#464200, Multi-Role Radar System	0.000	0.000	0.000	2.058	33.104	45.654	46.900	Continuing	Continuing				
(U) PMC, BLI#464000, Short/Med Range Radar	0.707	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.707				
(U) PMC, BLI#464200, Short/Med Range Radar	0.000	1.569	1.421	0.526	0.436	0.443	0.448	Continuing	Continuing				
(II) Peleted PDT05													
(U) Related RDT&E:	Systems) Project C	2220 and Drai	not C2272										
(U) PE 0206313M (Marine Corps Communication S	bysterris), Froject C	2210 anu 110ji	501 UZZ13.										

EXHIBIT F	EXHIBIT R-2a, RDT&E Project Justification						
		February 2004					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems	C3099 RADAR SYSTEMS					

(U) D. ACQUISITION STRATEGY:

- (U) Highly Expeditionary Long Range Air Surveillance Radar (HELRASR): The modernization initiative will encompass all 11 AN/TPS-59 radar systems within the Marine Corps inventory. Due to technological advances, evolving threats, mobility issues, changes in employment concepts (OMFTS and EMW), interface requirements imposed by developing systems (CAC2S, CEC/CTN and CLAWS) and requirements outlined in the Capstone Requirements Documents (CID, TAMD, GIG, and IDM), the AN/TPS-59(V)3 must undergo modernization. The Acquisition Strategy is based on the recommendations from the Business Case Analysis and two independent modernization studies. Beginning in FY04, the program office will start R&D efforts that will incorporate the 3-D Expeditionary Long Range Radar ORD requirements into the current 11 fielded AN/TPS-59(V)3 radars. It is anticipated that this effort will require 3 years of R&D with a combined DT/OT. Forecasted IOC is FY08 with FOC for 11 systems occurring in FY13.
- (U) AN/TPS-59 Radar Sustainment: The Program Office intends to address Diminishing Manufacturing Sources (DMS) issues by continuing with the Service Life Extension Program (SLEP) started in POM 02 initiative, and they will also begin R&D efforts that will modernize the radar with advanced technology and performance capabilities. A Business Case Analysis (BCA) was completed which incorporated two independent obsolescence/DMS studies that identified critical components which will severely impact the system performance and readiness by FY07. Based upon the BCA, the program office intends to sustain 5 of the 11 systems. The refurbishing and sustaining of 5 systems will enable 3 active (1 per MEF), 1 supporting and 1 reserve unit to have a system with current technology, extend system life cycle and lower the radars' overall operating cost. The remaining 6 systems will transition during the modernization effort.
- (U) The Ground Weapons Locating Radar (GWLR) AN/TPQ-47 is a U.S. Army lead program. With the exception of some minor Marine Corps specific equipment configuration changes, all prototype development, testing, and system integration will be conducted by the U.S. Army. The AN/TPQ-47 radar is an interim solution to the GWLR, as the AN/TPQ-47 radar does not meet all of the requirements in the GWLR ORD. However, the maturity of the U.S. Army's AN/TPQ-47 radar program will provide a radar system that has the extended range capability needed for the MAGTF to match the range of the High Mobility Artillery Rocket System (HIMARS). Funding for PMC for FY04-FY06 will be for Life Cycle Upgrade and to procure Battery Chargers. HIMARS IOC is scheduled for FY07.
- (U) MRRS: The MRRS will build off the ONR Affordable Ground Based Radar Science and Technology program that will demonstrate advanced mobility combined with medium radar range, high resolution, and superior clutter reduction. FY04 waiting for Source Selection, FY06 PMC funding is for a long lead item.
- (U) SHORT/MEDIUM RANGE AIR DEFENSE RADAR: This effort requires R&D funds to develop modifications to keep the Short/Medium Range Air Defense Radar System's electronics and hardware viable and safe, providing sustainment for the fielded system. Efforts are underway to award a sole source Engineering Services and procurement contract with the AN/TPS-63's Original Equipment Manufacturer, Northrop Grumman. The main focus of the contract will be the development and procurement of replacement sub-assemblies currently identified as containing obsolete components, as well as those assemblies experiencing reliability, maintainability and safety related issues.

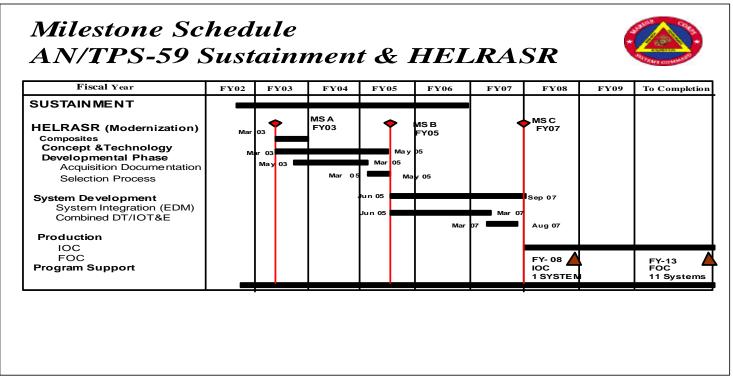
(U) E. MAJOR PERFORMERS:

- (U) Lockheed Martin Corp, Syracuse, NY. Projected to be put on contract in Jan 04 for AN/TPS-59 to develop ECPs for software improvements and DMS issues. FY05 project contract with LMC in Jan 05 to develop ECPs for software improvements and DMS issues.
- (U) Contractors TBD by competitive sourcing, projected to be put on contract in Jan 04 to support the AN/TPS-59 modernization initiative for in-house program management/government expense and system development/demonstration and to develop acquisition documentation.
- (U) Contractor TBD by competitive sourcing. Projected to be put on contract in Jan 05 to support the AN/TPS-59 modernization initiative for in-house program management/government expense and system development/demonstration. Contractors TBD by competitive sourcing.
- (U) Raytheon, El Segundo, CA. Projected to be put on contract in Jan 04 for test and evaluation of Marine Corps equipment configuration of the AN/TPQ-47 in support of GWLR.
- (U) Anteon Corp, Stafford, VA Contracted for in Jan 04 for writing and reviewing MRRS documentation and performing an AGBR evaluation.
- (U) Contractor TBD by competitive sourcing, projected to be put on contract in Mar 05 for MRRS software design and development.

			_					DATE:						
4.555.055.4.T.C.V./5.U.S.C.E.T.A.	OT!! (IT) (Exhibit R-3 Cost Anal						February 2004						
APPROPRIATION/BUDGET A	CTIVITY		PROGRA	M ELEME	=NT			PROJECT NUMBER AND NAME						
I			0206313M Marine Corps Communication											
RDT&E, N /BA-7 OPERATION	AL SYS D								ADAR SY	STEMS				
	Contract	Performing	Total		FY 03		FY 04		FY 05			Target		
	Method	Activity &	PY s	FY 03	Award	FY 04	Award		Award		Total	Value of		
	& Type	Location	Cost	Cost	Date	Cost	Date		Date			Contract		
	C/CPFF	Lockheed, Syracuse NY	0.000			4.628		4.653		Cont.	Cont.			
	TBD	TBD	0.000			0.000		9.800		Cont.	Cont.			
	TBD	TBD	0.000			3.510		0.250		Cont.	Cont.			
	MIPR	Redstone Arsenal, AL	0.000			3.764	01/04	0.000		0.000	3.764			
	RCP	Contractor TBD	0.000			0.000		3.000		Cont.	Cont.			
	RCP	Contractor TBD	0.000			0.000		3.500		Cont.	Cont.			
MRRS	RCP	Contractor TBD	0.000	0.000		0.000		11.000	03/05	Cont.	Cont.			
MRRS	RCP	Contractor TBD	0.000	0.000		0.000		4.000	01/05	Cont.	Cont.			
MRRS	RCP	Contractor TBD	0.000	0.000		0.000		3.000	01/05	Cont.	Cont.			
MRRS	RCP	Contractor TBD	0.000	0.000		0.000		2.000	01/05	Cont.	Cont.			
SHORT/MEDIUM RANGE	RCP	Northrop Grumman	0.000	0.000		0.325	03/04	0.250	03/05	Cont.	Cont.			
Subtotal Product Dev			0.000	0.000		12.227		41.453		Cont.	Cont.			
Remarks:														
	Contract	Performing	Total		FY 03		FY 04		FY 05			Target		
(Tailor to WBS, or System/Item		Activity &	PY s	FY 03	Award	FY 04	Award		Award	Cost to	Total	Value of		
	& Type	Location	Cost	Cost	Date	Cost	Date		Date			Contract		
	WR	NSWC, Dahlgren, VA	0.000			0.047		0.051	01/05	Cont.	Cont.			
	WR	Northrop Grumman	0.000			0.141		0.150		Cont.	Cont.			
_	WR	NSWC, Dahlgren, VA	0.000			0.500		0.000		0.000	0.500			
	MIPR	ONR, Arlington, VA	0.000			0.800		0.000		0.000	0.800			
SHORT/MEDIUM RANGE	WR	NSWC, Crane, IN	0.000	0.000		0.135	01/04	0.132	01/05	Cont.	Cont.			
Subtotal Support			0.000	0.000	-	1.623		0.333		Cont.	Cont.			

		Exhibit R-3 Cost Analy	eie					DATE:		February 2	2004			
APPROPRIATION/BUDGET A	CTIVITY	Exhibit N-3 Cost Alialy		AM ELEME	-NT			PROJEC	T NUMBE	ER AND NAM				
									PROJECT NOMBER AND NAME					
			0206313M Marine Corps Communication											
RDT&E, N /BA-7 OPERATION									ADAR SY	STEMS	1			
	Contract	Performing	Total		FY 03		FY 04		FY 05			Target		
(Tailor to WBS, or System/Iten		Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of		
Requirements)	& Type	Location		Cost	Date		Date	Cost	Date		Cost	Contract		
GWLR	RCP	Raytheon, El Segundo, CA	0.000			1.169	01/04	1.600		Cont.				
MRRS	RCP	Contractor TBD	0.000			0.000		4.675		Cont.		_		
SHORT/MEDIUM RANGE	RCP	Warner Robins AFB, GA	0.000	0.000		0.337	03/04	0.382	01/05	Cont.	Con			
Subtotal T&E			0.000	0.000		1.506		6.657		Cont.	Con			
Remarks:														
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target		
(Tailor to WBS, or System/Iten	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of		
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract		
ANI/TDO 50 0	CPFF	Anteon, Stafford, VA	1.739	0.000		1.286	01/04	0.549	01/05	Cont.	Con			
AN/TPS-59 Sustainment			0.000	0.000		0.566	01/04	0.441	01/05	Cont.	Con			
	CPFF	Anteon, Stafford, VA	0.000			0.400	01/04	0.982		Cont.				
HELRASR (Modernization)	CPFF WR	Anteon, Stafford, VA MCSC, Quantico, VA	0.000			0.438	01/04	0.002		Cont.	Con			
HELRASR (Modernization) HELRASR (Modernization)		MCSC, Quantico, VA	_	0.000		0.438	01/04	0.272		Cont.	Con			
HELRASR (Modernization) HELRASR (Modernization) GWLR	WR		0.000	0.000 0.000					01/05					
HELRASR (Modernization) HELRASR (Modernization) GWLR MRRS	WR MIPR	MCSC, Quantico, VA GSA, Bremerton, WA	0.000 0.000	0.000 0.000 0.000		0.325	01/04	0.272	01/05 01/05	Cont.	Con			
AN/TPS-59 Sustainment HELRASR (Modernization) HELRASR (Modernization) GWLR MRRS MRRS Subtotal Management	WR MIPR MIPR	MCSC, Quantico, VA GSA, Bremerton, WA GSA, Bremerton, WA	0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000		0.325 1.522 0.648	01/04 01/04	0.272 0.182 0.683	01/05 01/05 01/05	Cont. Cont. Cont.	Con Con Con			
HELRASR (Modernization) HELRASR (Modernization) GWLR MRRS	WR MIPR MIPR	MCSC, Quantico, VA GSA, Bremerton, WA GSA, Bremerton, WA	0.000 0.000 0.000	0.000 0.000 0.000 0.000		0.325 1.522	01/04 01/04	0.272 0.182	01/05 01/05 01/05	Cont.	Con Con			

			DATE:
	Exhibit R-4-4a Project Schedule/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER A	AND NAME
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems	C3099 RADAR SYSTE	EMS



Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(APPN, BLI #, NOMEN)									
(U) RDT&E,N, C2273 AN/TPS-59	5.515	0.555	0.000	0.000	0.000	0.000	0.000	0.000	6.070
(U) RDT&E,N, C3099 AN/TPS-59 (Sustainment)	0.000	5.914	5.202	4.567	2.212	0.000	0.000	Continuing	Continuing
(U) RDT&E,N, C3099 HELRASR (Modernization)	0.000	4.514	11.473	21.160	19.132	4.840	3.818	Continuing	Continuing
(U) PMC, BLI#463600, AN/TPS-59 (Sustainment)	8.163	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.163
(U) PMC BLI#463600, AN/TPS-59 V3	3.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.000
(U) PMC, BLI#465100, AN/TPS-59 (Sustainment)	0.000	18.077	24.466	7.461	11.933	0.000	0	Continuing	Continuing
(U) PMC, BLI#465100, HELRASR (Modernization)	0.000	0.000	0.000	0.000	0.000	38.933	50.564	Continuing	Continuing

	Exhibit R-4-4a Projec	t Schedule/Detail					DATE:	Februa	ary 2004
PRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT	NUMBER A	ND NAME		,
N /BA-7 OPERATIONAL SYS DE	/ 0206313M Marine Corp	os Communicatio	n Systems		C3099 RAD	DAR SYSTE	EMS		
		FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
AN/TPS-59 Sustainment Scheo	lule	3rd Q-				-4th Q			
HELRASR (AN/TPS-59 Modern	ization) Schedule								
Milestone A			2nd Q						
Concept & Technology Develope	nental Phase		2nd Q		3rd Q				
Acquisition Documentation			3rd Q		2nd Q				
Selection Process					2nd Q-3rd (<u>2</u>			
Milestone B					3rd Q				
System Development					3rd Q		-4th Q		
System Integration (EDM)					3rd Q		2nd Q		
Combined DT/IOT&E							2nd Q-4th	Q	
Milestone C							4th Q		
Production								1st Q	
IOC								4th Q	
FOC									
Program Support		3rd Q							
	_								
		1	1			1		i	

			DATE:
	Exhibit R-4-4a Project Schedule/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER A	AND NAME
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems	C3099 RADAR SYSTE	EMS

GROUND WEAPONS LOCATING RADAR SCHEDULE PROFILE

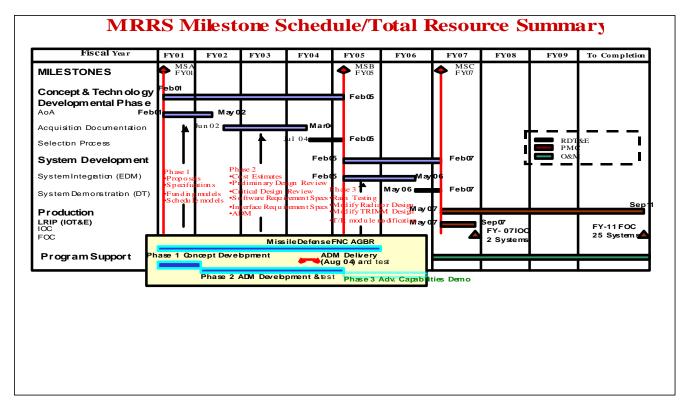
Milestone Schedule/Total Resource Summary

•	FY04	FY05	FY06	FY07	FY08	FY09	TOTAL
MILESTONE B Phase B Activities Program Docs System Integration Developmental Testing MILESTONE C	<u> </u>		*				
Phase C Activities Operational Test Full Rate Production IOC FOC			_	÷		÷	

Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(APPN, BLI #, NOMEN)									
(U) RDT&E,N, C3099, GWLR	0.000	1.682	2.073	0.986	0.314	0.000	0.000	0.000	5.055
(U) PMC, BLI#464200, GWLR	0.000	0.052	0.862	0.820	28.785	0.285	0.295	Continuing	Continuing
(U) PMC, BLI#462000, AN/TPQ-46/46A Upgrade	1.954	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.954

	ibit R-4-4a Project Sch GRAM ELEMENT	edule/Detall			PROJECT	NUMBER A	AND NAME	February 2004
/BA-7 OPERATIONAL SYS DEV 02063	313M Marine Corps Co	mmunicatio	n Systems		C3099 RAI	DAR SYSTI	EMS	
	ı	T	T		ı	1		
GWLR SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Milestone B		3rd Q						
Phase B Activities		3rd Q		1st Q				
Long Lead Items		3rd Q						
Milestone C				1st Q				
Phase C Activities				1st Q			-4th Q	
Operational Test				3rd Q-4th Q				
Full Rate Production					1st Q		4th Q	
IOC					3rd Q			
FOC							3rd Q	

			DATE:
	Exhibit R-4-4a Project Schedule/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER A	AND NAME
RDT&E, N /BA-7 OPERATIONAL SYS DEV	0206313M Marine Corps Communication Systems	C3099 RADAR SYSTE	EMS



Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(APPN, BLI #, NOMEN)									
(U) RDT&E,N, C2278, MRRS	2.741	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.741
(U) RDT&E,N, C3099, MRRS	0.000	7.234	32.040	20.942	16.930	1.008	1.005	Continuing	Continuing
(U) PMC, BLI#464200, MRRS	0.000	0.000	0.000	2.058	33.104	45.654	46.900	Continuing	Continuing

							DATE:			
	Exhibit R-4-4a Project Schedule/Detail							February 2004		
PRIATION/BUDGET ACTIVITY PROGRAM	PROGRAM ELEMENT					PROJECT NUMBER AND NAME				
N /BA-7 OPERATIONAL SYS DEV 0206313M	Marine Corps Communication Systems C3099 RADAR SYSTEMS									
	•									
MDDO COUEDIU E DETAII		E) (0000	E) / 000 /	E) / 0005	F) / 0000	E) / 222E	E) (0000	E)/ 0000		
MRRS SCHEDULE DETAIL	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
Concept & Technology Developmental Phase			<u>2</u>	nd Q						
Analysis of Alternatives	3rd Q									
Acquisition Documentation	3rd Q		2nd Q							
Selection Process			4th Q	2nd Q						
MIL .				0.10						
Milestone B				2nd Q		0.10				
System Development					2nd Q					
System Integration (EDM)				2nd Q						
System Demonstration (DT)					3rd Q	2nd Q T				
Long Lead Items					3rd Q					
Milastona C						0				
Milestone C						2nd Q				
Production					-					
LRIP (IOT&E)						3rd Q-4th	Q			
IOC						4th Q				
Program Support		1st (1st Q	Q			

EXHIBIT R-2, RDT&E Budget	Item Jus	stification			DATE:					
		February 2004								
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT (PE) NAME AND NO.									
RDT&E, N /BA-7 Operational System Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems									
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program	
Total PE Cost	37.552	41.960	44.828	59.852	55.668	36.541	29.805	Cont	Cont	
C0021 Assault Amphibious Vehicle 7A1 (AAV7A1)	0.351	0.351	0.367	1.910	1.928	0.820	0.840	Cont	Cont	
C1555 Light Armored Vehicle (LAV) PIP	4.304	4.169	15.267	31.790	23.923	4.060	1.430	Cont	Cont	
C1901 Marine Corps Ground Weaponry PIP	15.212	8.797	3.101	4.072	4.253	4.363	4.149	Cont	Cont	
C2086 Marine Enhanced Program (MEP)	2.117	2.603	2.655	2.608	2.651	2.734	2.790	Cont	Cont	
B2237 Amphibious Vehicle Test Branch (AVTB)	0.733	0.799	0.812	0.828	0.844	0.871	0.890	Cont	Cont	
C2503 Family of Combat Equip Support & Services	1.070	3.699	3.959	7.204	7.509	9.087	10.143	Cont	Cont	
C2928 EIFGSWS (HIMARS)	9.891	6.860	3.026	0.016	0.000	0.000	0.000	0.000	19.793	
C3098 Fire Support Systems	0.000	11.099	12.201	10.199	14.008	14.134	9.077	Cont	Cont	
C4002 Family of Raid Reconnaissance	0.000	2.545	3.440	1.225	0.552	0.472	0.486	Cont	Cont	
C9277 Target Location Designation and Handoff Sys	1.485	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.485	
C9278 Integrated Digital Camera Riflescope	1.433	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.433	
C9279 Body Armor Upgradera Riflescope	0.956	1.038	0.000	0.000	0.000	0.000	0.000	0.000	1.994	
Quantity of RDT&E Articles										

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This PE provides modification to Marine Corps Expeditionary Ground Force Weapon Systems to increase lethality, range, survivability and operational effectiveness. It also provides for the development of AAV7A1 reliability, maintainability, operational and safety modifications, improvements in command and control in the ADMS, and product improvements to the family of LAVs. The AVTB provides facilities and personnel which perform a broad range of testing, repair and technical services to amphibious vehicles.

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing and manufacturing development for upgrades of existing systems.

EXHIBIT R-2, RDT&E B	udget Item Justif	fication		DATE:	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational System Development		PROGRAM ELEMENT (PE) NAME AND NO. 0206623M Marine Corps Ground Combat/Supporting Arms Systems			
3. PROGRAM CHANGE SUMMARY					
	FY2003	FY2004	FY 2005		
(U) FY 2004 President's Budget:	38.850	35.439	70.564		
(U) Adjustments from the President's Budget:					
(U) Congressional/OSD Program Reductions	-0.018	-0.009			
(U) Congressional Rescissions					
(U) Congressional Increases		5.950			
(U) Reprogrammings	0.949		-25.796		
(U) SBIR/STTR Transfer	-0.269	-0.004	-0.001		
(U) Minor Affordability Adjustment	-1.960	0.584	0.061		
(U) FY 2005 President's Budget:	37.552	41.960	44.828		
CHANGE SUMMARY EXPLANATION:					
(U) Funding: See Above.					
(U) Schedule:					
(U) Technical: Not Applicable.					

EXHIBIT R-2a	EXHIBIT R-2a, RDT&E Project Justification D.					DATE:	Fel	oruary 2004		
APPROPRIATION/BUDGET ACTIVITY	ROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMI				MBER AND N	AME				
RDT&E, N /BA-7 Operational Sys Dev	0206623M M	D206623M Marine Corps Ground Combat Arms Systems B2237 Amphil				ibious Vehicle	Test Director	ate (AVTD)		
									Cost to	Total
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program
Project Cost		0.733	0.799	0.812	0.828	0.844	0.871	0.890	Cont	Cont
RDT&E Articles Qty					·				·	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) The Amphibious Vehicle Test Directorate (AVTD) is a one-of-a-kind Department of Defense test facility for amphibious vehicles and supports the requirements of all services. The AVTD conducts developmental, combined developmental/operational, and follow-on testing and evaluation of production hardware. It also conducts Product Assurance Testing and Substitute or alternative parts and material testing for amphibious vehicles and associated equipment. Because of its year-round temperate climate, diverse terrain, and 17 miles of coastline, the AVTD is ideal for the amphibious vehicle, as well as ship related testing. The AVTD is in close proximity to San Clemente island which is used frequently for live fire sea-to-shore testing and high-speed water testing. The AVTD is committed to testing product improvement programs, engineering change proposal design changes, and field change requests.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.569	0.634	0.642
RDT&E Articles Qty				

Maintenance, refurbishment, upgrade, and replacement of test equipment and instrumentation needed to provide program support, supplies, and services at AVTD test site to support scheduled Assault Amphibious Vehicle 7A1 (AAV7A1) "rebuild to standard" testing, Advanced Amphibious Assault Vehicle (AAAV) Development Testing, Light Armored Vehicle Service Life Extension Program as well as other Marine Corps mobility and mine warfare programs. Upgrade instrumentation for over the horizon capability in developing weapons systems to support operational maneuver from the sea. Program on-site support, supplies, and services to support Naval Sea System Command and Naval Mine Warfare Command for development testing of Navy mine countermeasures system. Provide services and support to the Department of Defense Common Test and Training Range Architecture workshops. Provide organic supply support including management operations, advertising, general accounting, and a maintenance float of equipment. Provide intermediate maintenance (third echelon) of organic non-developmental communication electronic and ordnance equipment.

COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost		0.164	0.165	0.170
RDT&E Articles Qty				

Provide funding for necessary services provided by Marine Corps Base, Camp Pendleton (MCB CAMPEN), California for electricity, heating, and other power charges; and long distance telephone support. Provide funding for calibration of laboratory test equipment and maintenance services provided by MCLB Barstow and 1st Force Service Support Group (FSSG).

(U) Total \$ 0.733 0.799 0.812

EXHIBIT R-2a, F	RDT&E Project Justification				DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBE	R AND NAME		PROJECT N	UMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Gro	Corps Ground Combat Arms Systems B2237 Amph		nibious Vehicle Test Directorate (AVTD)	
(U) Project Change Summary:					
	FY2003	FY2004	FY2005		
(U) FY 2004 President's Budget:	0.751	0.808	0.814		
(U) Adjustments from the President's Budget:					
(U) Congressional Program Reductions	-0.018	-0.009			
(U) Congressional Rescissions					
(U) Congressional Increases					
(U) Reprogrammings					
(U) SBIR/STTR Transfer					
(U) Inflation Change			-0.002		
(U) FY 2005 Presidential Budget:	0.733	0.799	0.812		
CHANGE SUMMARY EXPLANATION:					
(U) Funding: See Above.					
(U) Schedule: Not Applicable.					
(U) Technical: Not Applicable.					

(U) C. OTHER PROGRAM FUNDING SUMMARY: Not Applicable.

(U) Related RDT&E: PE 0603611M (Marine Corps Assault Vehicles)

(U) D. ACQUISITION STRATEGY:

Work will be lead in-house. Necessary contractor support will be provided by Marine Corps Base Camp Pendleton by using existing contracts. General Services Administration will be used for vehicle leasing contract.

(U) E. MAJOR PERFORMERS:

MCTSSA, Camp Pendleton, CA - Maintenance, refurbishment, upgrade, and replacement of test equipment. Oct 03, Oct 04, Oct 05

(U) SCHEDULE PROFILE:

Testing conducted at AVTD includes all aspects of Marine Corps Assault Amphibious Vehicles. Testing is planned for MK 155 Minefield Breaching System, RAM/RS (Reliability, Availability and Maintainability/Rebuild to Standard) Production Assurance testing. Engineering Change Proposals (ECP) as required; upgrade instrumentation for over the horizon capability in developing weapons systems to support operational maneuver from the sea, support for the Light Armored Vehicle Service Life Extension Program; C4I integrated support for AAV Communications and RAM/RS. AVTD will support the testing of the Advanced Amphibious Assault Vehicle (AAAV), as directed by DRPM AAA, during the phase of the AAAV Program Development.

Exhibit R-2a, RDT,N_Project Justification (Exhibit R-2a, page 4 of 58)

	EXHIBIT R-2a, RDT&E Project Justification						DATE:		
							February 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELE	MENT NUMBE	R AND NAME		PROJECT NUM	BER AND NAM	ΛE		
	0206623M Mari	ine Corps Groι	ind Combat/Su	pporting					
RDT&E, N /BA-7 Operational Sys Dev	Dev Arms Systems C			C0021 Assault Amphibious Vehicle 7A1 (AAV7A1)					
								Cost to	Total
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY2008	FY2009	Complete	Program
Project Cost	0.351	0.351	0.367	1.910	1.928	0.820	0.840	Cont	Cont
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) The AAV7A1 RDT&E program provides for the development, test and preparation of Engineering Change Proposals (ECPs) to improve the performance, reliability, maintainability and safety of the AAV7A1 Family of Vehicles (FOV). This program also allows for the development of installation kits for the integration of communications and navigation equipment developed for integration into the AAV7A1 FOV.
- (U) Beginning in FY 06, RDT&E funds will be used for development of upgrades to the AAV recovery variant, the AAVR7A1. The AAVR7A1 is the primary maintenance and recovery vehicle in the AAV FOVs and is an alternate source of maintenance and recovery for other elements of the MEF. This initiative replaces aging and discontinued unique AAVR7A1 subsystems, including the crane, winch, welder, compressor, generator, hydraulic power source, magnetic clutches and tool box. It incorporates the latest recovery, lift and maintenance technologies and will incorporate future support initiatives as a MEF asset.

B. ACCOMPLISHMENTS/ PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.351	0.351	0.367
RDT&E Articles Qty			

0.351

Provide engineering support for development and integration of modification kits such as engine test stands, crew heaters, and Advanced Combat Vehicle Current Power into AAV7A1 Family of Vehicles.

(U) PROJECT CHANGE SUMMARY:

(U) FY 2005 President's Budget:

	FY2003	FY2004	FY2005
(U) FY 2004 President's Budget:	0.363	0.355	0.368
(U) Adjustments from the President's Budget:			
(U) Congressional Program Reductions			
(U) Congressional Rescissions			
(U) Congressional Increases			
(U) Reprogrammings			
(U) Minor Affordability Adjustments			
(U) SBIR/STTR Transfer	-0.012	-0.004	-0.001

0.351

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.(U) Schedule: Not Applicable.(U) Technical: Not Applicable.

0.367

		'	UNCLASS	ILIED					
	EXHIBIT R-2a, RD	T&E Project Ju	ustification			D/	ATE:		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM 0206623M Marine				PROJECT NUMBI	ER AND NAME		ebruary 2004	
RDT&E, N /BA-7 Operational Sys Dev	Arms Systems	Oorps Oround	Тоотправоарр		C0021 Assault A	nphibious Veh	icle 7A1 (AA\	/7A1)	
(U) C. OTHER PROGRAM FUNDING SUM									
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>ro Compl</u>	Total Cost
(U) PMC, 202100, AAV 7A1 PIP	117.235	104.156	58.596	10.574	17.807	44.841	44.029	Continuing	Continuing
(U) D. ACQUISITION STRATEGY:									
These efforts focus on the development of E support will be acquired using existing contr		posals to impro	ve performance	, reliability, m	naintainability and s	afety of the Ass	ault Amphibio	us Vehicle. Co	ontractor
(U) E. Major Performers:									

EXHIBIT R-2a, RDT	EXHIBIT R-2a, RDT&E Project Justification DA					DATE:			
						F	ebruary 200	4	
APPROPRIATION/BUDGET ACTIVITY					PROJECT NU	JMBER AND I	NAME		
		larine Corps	Ground Com	oat/Supportin	-				ſ
RDT&E, N /BA-7 Operational Sys Dev	Systems					C1555 Light A	Armored Veh	icle (LAV) Pl	P
								Cost to	Total
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program
Project Cost	4.304	4.169	15.267	31.790	23.923	4.060	1.430	Cont	Cont
RDT&E Articles Qty									İ

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Light Armored Vehicle Family of Vehicles (LAV FOV) consists of seven fielded LAV configurations, and one communications/intelligence-configured asset on an LAV chassis. The LAV FOV provides a logistically self-contained, highly mobile, and lethal combined arms combat system to the Marine Air-Ground Task Force (MAGTF). The LAV Product Improvement Program funds the development and testing of modifications of four programs; the LAV Service Life Extension Program (SLEP) which includes the Improved Thermal Sight System (ITSS), the LAV Anti Armor System (LAV-AAS) Program, the LAV-Command & Communication (LAV-C2) Program, the LAV Expeditionary Fire Support System (LAV-EFSS), and the LAV Reliability, Availability & Maintainability (LAV RAM) Program. These programs will ensure that the LAV FOV will be capable of conducting its assigned missions through FY 2015 by enhancing lethality and survivability; reliability, availability, maintainability and durability; as well as reducing operations and support costs. The LAV EFSS consists of a 120mm Recoil Mortar System replacement for the LAV-Mortar variant's M252 81 mm Mortar System.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	3.414	2.821	1.233
RDT&E Articles Qty			

LAV SLEP ITSS: Develope ITSS prototypes, PMO & matrix support, PMO travel, Contracted Advisory Assistance Services (CAAS) and DT/OT of ITSS prototypes.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.890	1.348	1.440
RDT&E Articles Qty			

LAV RAM: Research and development of numerous LAV RAM projects to include 2 speed transfer case, tire replacement initiative and transmission replacement.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.000	7.931
RDT&E Articles Qty			

LAV C2: LAV-C2 prototype development, PMO & matrix support, PMO travel, CAAS & test ammo procurement in support of LAV-C2.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.000	4.663
RDT&E Articles Qty			

LAV-EFSS: System Development, Demonstration and integration efforts, PMO & matrix support, PMO travel and CAAS for the LAV-EFSS.

0.000 4.304 4.169 15.267

(U) Total \$

EXHIBIT R-2a, RDT	&E Project Justifi	cation				DATE:			
, in the second								4	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELI 0206623M Mai					PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev	Systems	-				C1555 Light Ar	mored Vehicle (LAV) P	P	
(U) PROJECT CHANGE SUMMARY:					•				
	FY2003	FY2004	FY2005						
(U) FY 2004 President's Budget:	4.725	4.216	37.306						
(U) Adjustments from the President's Budget:									
(U) Congressional/OSD Program Reductions									
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings			-22.201						
(U) SBIR/STTR Transfer	-0.036								
(U) Minor Affordability Adjustment	-0.385	-0.047	0.162						
(U) FY 2005 President's Budget:	4.304	4.169	15.267						
CHANGE SUMMARY EXPLANATION: (U) Funding: See Above. (U) Schedule: Not Applicable. (U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u> (U) PMC, 203800, LAV PIP	FY 2003 49.802	FY 2004 36.213	FY 2005 41.588	FY 2006 59.252	FY 2007 39.606	FY 2008 82.118	FY 2009 To Compl 86.516 Continuing	Total Cost Continuing	
(U) Related RDT&E: Not Applicable.	7.00				37.000				

EXHIBIT R-2a, RD	EXHIBIT R-2a, RDT&E Project Justification					
		February 2004				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME				
	0206623M Marine Corps Ground Combat/Supporting Arms					
RDT&E, N /BA-7 Operational Sys Dev	Systems	C1555 Light Armored Vehicle (LAV) PIP				

- (U) D. ACQUISITION STRATEGY: The LAV Service Life Extension Program (SLEP) which is comprised of the Basic SLEP and the Improved Thermal Sight System, is designed to extend the service life of the LAV Family of Vehicles through 2015, an increase of 12 to 15 years beyond its original projected useful life. This utilizes both developmental and off-the-shelf technologies to enhance survivability, lethality, mobility and sustainability while simultaneously reducing the cost of ownership. The Marine Corps uses multi-disciplined integrated product teams consisting of engineering, logistical, contracting and financial personnel to manage the SLEP. SLEP contracts have been designed using a winner-take-all methodology in order to reduce costs and encourage competition.
- (U) D. ACQUISITION STRATEGY: The LAV C2 Program is designed to meet and maintain the command and control requirements of the Operational Requirements Document (ORD). The LAV-C2 Upgrade will provide a hardware and software module for the LAV-C2 to support complex radio configurations. The module will provide isolation of critical communications functions in a self-contained module to support a mix of legacy radio and the Joint Tactical Radio System (JTRS). The modification will ensure that the LAV-C2 will be a viable weapons system through the service life of the the LAV Family of Vehicles. This utilizes both developmental and off-the-shelf technologies to enhance survivability, lethality, and sustainability while simultaneously reducing the cost of ownership. The Marine Corps will use multi-disciplined integrated product teams consisting of engineering, logistical, contracting and financial personnel to manage the LAV C2. LAV C2 contracts will be designed using a winner-take-all methodology to reduce costs and encourage competition.
- (U) D. ACQUISITION STRATEGY: The LAV RAM project funds numerous low-dollar, yet extremely important minor modifications, support equipment and tools and other such projects that increase LAV reliability and readiness while simultaneously reducing operations and support costs. The Marine Corps uses multi-disciplined integrated project teams consisting of engineering, logistical, contracting and financial personnel to manage RAM projects. The majority of contracts issued under the RAM line are subject to the competitive acquisition process.
- (U) D. ACQUISITION STRATEGY: The LAV EFSS Program is designed to replace the existing LAV Mortar M 252 81mm Mortar System with a 120 mm Recoil Mortar System. The current 81mm Mortar System does not meed the Operational Requirements Document (ORD) requirements for lethality and time to emplacement. The modification will ensure that the LAV-EFSS becomes a viable weapon system through the service life of the LAV Family of Vehicles. This utilizes both developmental and off-the-shelf technologies to enhance survivability, lethality, and sustainability while simultaneously reducing the cost of ownership. The Marine Corps will use multi-disciplined integrated product teams consisting of engineering, logistical, contracting and financial personnel to manage the LAV EFSS. LAV EFSS contracts will be designed using a winner-take-all methodology in order to reduce costs and encourage competition.

EXHIBIT R-2a, RDT&	EXHIBIT R-2a, RDT&E Project Justification					
		February 2004				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat/Supporting Arms	PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev	Systems	C1555 Light Armored Vehicle (LAV) PIP				

(U) E. MAJOR PERFORMERS:

LAV ITSS

FY03 Raytheon Company, Mckinney, TX. DT/OT preparation. Oct 02.

Metric Systems Corporation, Fort Walton Beach, FLA.

SURVICE Engineering Company, Belcamp, MD. ITSS development & test support. Oct 02.

FY04 Raytheon Company, Mckinney, TX. DT/OT preparation.

Metric Systems Corporation, Fort Walton Beach, FLA. MCCDC, Quantico, VA, DT/OT completion. Oct 04.

TACOM, Warren, MI. PMO support. Oct 03.

SURVICE Engineering Company, Belcamp, MD. ITSS development & test support. Oct 03.

FY05 MCCDC, Quantico, VA, DT/OT completion. Oct 04.

TACOM, Warren, MI. PMO support. Oct 04.

SURVICE Engineering Company, Belcamp, MD. ITSS development & test support. Oct 04.

LAV RAM

FY03 Various FY04 Various FY05 Various

LAV-C2 & LAV-EFSS

FY05 Major performers are not determined as of this date.

	Exhil	oit R-3 Cost Analysis				DATE:			Febru	ary 2004		
APPROPRIATION/BUDGET AC	TIVITY	PROGRAM ELEME 0206623M Marine		round Co	mbat/S	1	g Arms	PROJECT N	NUMBER /	AND NAME		
RDT&E, N /BA 7 Operational S	Sys Dev	Systems						C1555 Ligh		d Vehicle (L/	AV) PIP	
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
Product Development	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Primary Hardware Dev Spt	CPFF	GTRI/SURVICE, Bellcamp MD	1.189							0.000	1.189	1.189
Gov't Dev Engineering	MIPR	In-House Product Dev	1.560							0.000	1.560	1.560
Product Development (ITSS)	Various	Raytheon, Mckinney TX	20.332	1.702	VAR	0.238				Cont.	Cont.	
Product Development (RAM)	Various	Various	1.184	0.890	VAR	1.348	VAR	1.240	VAR	Cont.	Cont.	
Product Development (C2)	Various	TBD						7.362	1Q05	4.678	12.040	
Product Development(EFSS)	Various	TBD						3.800	1Q05	7.902	11.702	
CASS	MIPR	SURVICE, Bellcamp, MD	0.000	0.275							0.275	
Subtotal Product Dev		•	24.265	2.867		1.586	5	12.402	2	Cont.	Cont.	
Remarks:					•							
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
Support	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
TOW Missiles	FFP	TBD	0.000							0.000	0.000	0.590
Subtotal Support			0.000	0.000		0.000		0.000)		0.000	0.590
Remarks:					•	•						
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
Test & Evaluation	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Devl/Oper Test & Eval	MIPR	Yuma Prv Ground, AZ	5.133	1.022	3Q03	1.180	Various	1.233	Various	5.000	13.568	
Devl/Oper Test & Eval	MIPR	Aberdeen Test Center, MD	2.575							8.535	11.110	
Devl/Oper Test & Eval	MIPR	TACOM								0.500	0.500	
Devl/Oper Test & Eval	MIPR	MCOTEA, Quantico, VA	0.650	0.075	3Q03	0.870	Various	0.250	Various	Cont.	Cont.	
Subtotal T&E			8.358	1.097		2.050		1.483	3	Cont.	Cont.	
Remarks:												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
Program Management	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Program Management	VAR	TACOM, Warren, MI	2.680		1Q03	0.385	1Q04	1.023	1Q05	Cont.	Cont.	
Matrix Support	MIPR	ARDEC/NVL/TACOM, MI	0.586		1Q03	0.148	Various		Various	Cont.	Cont.	
Subtotal Management			3.266	0.340		0.533		1.382	2	Cont.	Cont.	
Remarks:												
Total Cost				4.304		4.169		15.267	7	Cont.	Cont.	

R-1 SHOPPING LIST - Item No. 183

Exhibit R-4/4a Schedule Profile/Detail						DATE:			February 200)4
APPROPRIATION	0206623M Marine Corps Ground Combat/Supporting Arms				PROJECT I	NUMBER A	ND NAME			
RDT&E, N /BA 7				C1555 Ligh	t Armored	l Vehicle (L	.AV) PIP			
(U) D. SCHEDULE	PROFILE:									
LAV SLEP										
	Milestone 0:	1st Qtr, FY 1998	Milestone I		2nd Qtr, FY					
	Milestone I:	2nd Qtr, FY 1999	Contract Av	vard:	3rd Qtr, FY					
	Milestone II:	2nd Qtr, FY 2000	IOC:		2nd Qtr, FY					
	DT / OT:	2nd Qtr, FY 2001	FOC:		4th Qtr, FY	2009				
LAV C2										
	Milestone A:	Ongoing	Contract Av	vard:	1st Qtr, FY	2007				
	Milestone B:	3rd Qtr, FY2004	IOC:		1st Qtr, FY	2009				
	DT / OT:	3rd Qtr, FY 2006	FOC:		1st Qtr, FY	2010				
	Milestone C:	1st Qtr, FY 2007								
LAV EFSS										
			Contract Av	vard:	1st Qtr, FY					
	Milestone B:	3rd Qtr, FY 2004	IOC:		1st Qtr, FY					
	DT / OT:	1st Qtr, FY2007	FOC:		1st Qtr, FY	2011				
	Milestone C:	1st Qtr, FY2008								
Program Funding S (APPN, BLI #, NO		<u>FY 20</u>	003 FY 2004	FY 2005	FY 2006	FY 2007	FY2008	FY2009	To Compl	Total Cost
(APPN, BLI#, NO. (U) RDT&E,N	VIII/I)	4.3	304 4.169	15.267	31.790	23.923	4.060	1.430	Continuing	Continuing
(U) PMC, BLI# 20	3800 LAV	49.				39.606	82.118	86.516	Continuing	Continuing
					-		0			

	PRIATION/BUDGET ACTIVITY PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting Arms			PROJECT NUMBER AND NAME C1555 Light Armored Vehicle (LAV) PIP								
	AV SCHEDULE	· *	FY 2003							FY 2009		
<u> </u>	AV SLEP											
	Milestone	III:										
	Contract A	Award:										
	IOC:			2Q								
	FOC:								4Q			
<u> </u>	-AV C2											
	Milestone	A:										
	Milestone	B:		3Q								
	DT / OT:					3Q						
	Milestone	C:					1Q					
	Contract A	Award:					1Q					
	IOC:								1Q			
1	AV EFSS											
	Milestone	A:										
	Milestone	B:		3Q								
	DT / OT:						1Q					
_	Milestone	C:						1Q				
	Contract A	Award:						1Q				
	IOC:									1Q10		

EXI	EXHIBIT R-2a, RDT&E Project Justification					DATE:			
							F	ebruary 2004	
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME									
0206623M Marine Corps Ground Combat/Supporting									
RDT&E, N /BA-7 Operational Sys Dev	Arms Systems	Arms Systems				Corps Ground	Weaponry PIP		
								Cost to	Total
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program
Project Cost	15.212	8.797	3.101	4.072	4.253	4.363	4.149	Cont	Cont
RDT&E Articles Qty	3								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) This project develops joint and Marine Corps unique improvements to infantry weapons and artillery technology, USMC unique Amphibious Armor Systems (AAS), improvements for the M1A1 Main Battle Tank and support systems, USMC Family of Small Craft, Night Vision Equipment, Underwater Reconnaissance, Family of Raid and Reconnaissance Equipment, Interim Small Unit Remote Scouting System (ISURSS) and monitors national and international weapons development.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	1.999	0.000	0.000
RDT&E Articles Qty			

AN/GVS-5 Replacement (AEROS): Funds used for engineering support and to purchase candidate systems for use in a down select. Systems were used for developmental testing and further down select to a single Engineering/Manufacturing Development (EMD) system. This program has moved to Project C3098 within this Program Element (PE).

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.261	0.000	0.000
RDT&E Articles Qty			

Family of Artillery Munitions (FAM): Supported a production decision for the Modular Artillery Charge System to include Weapons Systems Explosive Safety Review Board testing, program support, and travel. Continued the active monitoring of U.S. Army artillery ammunition development programs to leverage and influence Army developmental efforts. This program has moved to Project C3098 within this PE.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.864	0.000	0.000
RDT&E Articles Qty			

Family of Raids and Reconnaissance Equipment: Continued participation with Natick Labs on refinement of Full Spectrum Battle Equipment (FSBE) program and enhancement of FSBE ensemble. Integrated logistics to standardize and improve existing close quarters battle and direct action combat equipment and all Marine Corps parachute programs. Continued ongoing support to existing items that meet mission requirements for Close Quarter Battle and Parachute Operations. Continued development of Airborne systems that will allow military parachutist to carry combat equipment in various configurations and a means of supplying/re-supplying combat essentials to Marine units. Continued development on High Altitude High Opening (HAHO) Navigation Board, Improved jumpers helmet, Oxygen (O2) console system integrated with V-22 Osprey, and High Altitude Low Opening (HALO)/HAHO Jumpers kit. This program has moved to Project C4002 within this PE.

EXI	IIBIT R-2a, RDT&E F	Project Justification			DATE:	
						February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELE	MENT NUMBER AND NAME				
	0206623M Mar	rine Corps Ground Combat/Supporting				
RDT&E, N /BA-7 Operational Sys Dev	Arms Systems			C1901 Marine	Corps Ground Weaponry I	PIP
COST (\$ in Millions)		FY 2003	FY:	2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.145	0.0	000	0.000	
RDT&E Articles Qty						
Family of Small Craft Mods: Continued to	pursue improvements fe	or the Riverine Assault Craft and th	e rigid Raiding (Craft. MCPD Fal	lbrook is the principle agency for	or supporting these

<u>Family of Small Craft Mods</u>: Continued to pursue improvements for the Riverine Assault Craft and the rigid Raiding Craft. MCPD Fallbrook is the principle agency for supporting these efforts. Safety related issues will be priority, such as conducted in past years with the raw water cooling system. This program has moved to Project C4002 within this PE.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	1.988	0.000	0.000
RDT&E Articles Qty			

Fire Support Mods: Joint participation in artillery and fire support improvement projects. Specifically conducted life cycle analysis on the M198 Howitzer develop Global Positioning System (GPS)-Selective Anti-Spoofing Module (SASM) capability for the MMS. Conducted analyses and studies on Expeditionary Fire Support System (EFSS). Specifically, developed a firing mechanism upgrade for the theodolite modification associated with the Meteorological Measuring System (MMS) as well as safety modifications and service life extension efforts. Researched safety concerns related to M198 Howitzer, and designed and developed material solution to those concerns. This program has moved to Project C3098 within this PE.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.705	0.865	1.000
RDT&E Articles Qty			

Infantry Weapons Mods: Joint participation and Marine Corps unique activities for evaluation of safety, lethality, and technology improvements for Marine Corps infantry/reconnaissance individual /crew-served weapons. Past years' efforts have impacted on the safety of M2 Machine Guns and M249 Squad Automatic Weapons and have included the new M40A3 Sniper Rifle, the mortar systems, and the current Marine Expeditionary Unit Special Operations Capability (MEU SOC) .45 Caliber pistol efforts. Issues particularly related to safety are recurring events from year to year that require immediate attention to maintain an operational readiness posture. Likewise, we will continue to pursue potential technological advances that will significantly enhance the operational utility of both individual and crew-served weapon systems.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.579	0.873	0.757
RDT&E Articles Qty			

Interim Small Unit Remote Scouting System (ISURSS): Funds will be used for development, demonstration and testing of product improvements and block upgrades to meet increasingly demanding Operational Requirements Document (ORD) thresholds. Significant increase in funding occurs after Milestone C (FY03) when the program transitions from a Science and Technology (S&T) experiment to an evolutionary acquisition program with Marine Corps Systems Command (MCSC) in the lead.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.460	0.000	0.000
RDT&E Articles Qty			

Interim Passenger Helicopter Aircrew Breathing Device: Initiated R&D efforts in development of underwater breathing device providing limited life-saving capability. The device allows an underwater breathing capability for Marines who find themselves in a downed helicopter scenario over water.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	4.244	0.000	0.000
RDT&E Articles Qty			

M1A1 Firepower Enhancement: Comparative assessments of competing designs and conducted system design review to finalize system performance specification. Performed EMD phase activities. Performed final integration and prove out. Procured test articles, conducted developmental test and evaluation, pre-production technical reviews/audits, logistical support, and development/planning. This program has moved to Project C2316, PE26624M, Marine Corps Combat Service Support.

	(HIBIT R-2a, RDT&E Proje	ct Justification		DATE:	
				Fe	bruary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMEN	NT NUMBER AND NAME			
	0206623M Marine (Corps Ground Combat/S	upporting		
RDT&E, N /BA-7 Operational Sys Dev	Arms Systems	•	•	rine Corps Ground Weaponry PIP	
COST (\$ in Millions)	, , , , , , , , , , , , , , , , , , ,	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.236	0.000	0.000	
RDT&E Articles Qty					
M1A1 Armor Mods: Continued joint partic	cipation and evaluation of pro-	spective modifications include	ing component enhancements	advanced fire control systems, survivabil	itv systems.
combat identification, mobility and others.		*	· ·	•	., .,
compact identification, mobility and others.	This program has moved to Tr	oject 02310, 12 020002 iiii,	ivic compar service suppor	t in 1 101 and beyond.	
0007 (6.1.14111)		51,0000	5 1/2001		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		1.797	0.000	0.000	
RDT&E Articles Qty					
Mortar Ballistic Computer (MBC): Initiat	ed R&D efforts in developme	nt (including programmatic d	locumentation and support), c	coding, evaluation, independent verification	n and
validation of MBC technical firing computa	tional software, and integratio	n to a Commercial Off-The S	helf (COTS) hardware platfo	rm. This program has moved to Project Ca	3098 within
this PE.	_		•		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.463	0.989	1.105	
RDT&E Articles Qty		0.400	0.000	11100	
Night Vision Mod Line: Joint participation	and Marina Come unique est	ivities for evaluation of sofety	, lethelity and technology in	mayamanta fan Marina Cama Night Visian	Davissa
Provides for in-service engineering agent (IS					at Ft. Beivoir
	ion (12) and fused multispectr				
on new enhancements for Image Intensificat	. ,	ai weapon signi. Traver to su	pport ennanced systems deve	iopment and review of tests.	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost					
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost		FY 2003 0.000	FY 2004 0.064	FY 2005	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty		FY 2003 0.000	FY 2004 0.064	FY 2005	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Tactical Unmanned Vehicle (TUV): Fun		FY 2003 0.000 ntal testing at Redstone Arser	FY 2004 0.064 nal.	FY 2005 0.183	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Tactical Unmanned Vehicle (TUV): Fun COST (\$ in Millions)		FY 2003 0.000 ntal testing at Redstone Arser FY 2003	FY 2004 0.064 nal.	FY 2005 0.183	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Tactical Unmanned Vehicle (TUV): Fun COST (\$ in Millions) Accomplishment/Effort Subtotal Cost		FY 2003 0.000 ntal testing at Redstone Arser	FY 2004 0.064 nal.	FY 2005 0.183	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Tactical Unmanned Vehicle (TUV): Fun COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty	ds will be used for developme	FY 2003 0.000 ntal testing at Redstone Arser FY 2003 0.020	FY 2004 0.064 Pal. FY 2004 0.056	FY 2005 0.183 FY 2005 0.056	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Tactical Unmanned Vehicle (TUV): Fun COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Thermal Weapons Sight (TWS)[AN/PAS	ds will be used for developme -13]: Provided for joint partici	FY 2003 0.000 Intal testing at Redstone Arser FY 2003 0.020 Ipation in Pre-Planned Product	FY 2004 0.064 nal. FY 2004 0.056 et Improvement (P3I) for TW	FY 2005 0.183 FY 2005 0.056 S – remote image transfer, laser range find	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Tactical Unmanned Vehicle (TUV): Fun COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty	ds will be used for developme -13]: Provided for joint partici	FY 2003 0.000 Intal testing at Redstone Arser FY 2003 0.020 Ipation in Pre-Planned Product	FY 2004 0.064 nal. FY 2004 0.056 et Improvement (P3I) for TW	FY 2005 0.183 FY 2005 0.056 S – remote image transfer, laser range find	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Tactical Unmanned Vehicle (TUV): Fun COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Thermal Weapons Sight (TWS)[AN/PAS	ds will be used for developme -13]: Provided for joint partici	FY 2003 0.000 Intal testing at Redstone Arser FY 2003 0.020 Ipation in Pre-Planned Product	FY 2004 0.064 nal. FY 2004 0.056 et Improvement (P3I) for TW	FY 2005 0.183 FY 2005 0.056 S – remote image transfer, laser range find	
COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Tactical Unmanned Vehicle (TUV): Fun COST (\$ in Millions) Accomplishment/Effort Subtotal Cost RDT&E Articles Qty Thermal Weapons Sight (TWS)[AN/PAS reticle (mechanical, quadrant-style sight), m	ds will be used for developme -13]: Provided for joint partici	FY 2003 0.000 Intal testing at Redstone Arser FY 2003 0.020 Ipation in Pre-Planned Product	FY 2004 0.064 nal. FY 2004 0.056 et Improvement (P3I) for TW	FY 2005 0.183 FY 2005 0.056 S – remote image transfer, laser range find	

Underwater Reconnaissance Capability (URC): Funds provided for concept exploration and development of prototypes for Divers Propulsion Device (DPD) and for the Tactical Hydrographic Survey Equipment (THSE) in support of underwater reconnaissance operations. Funds were also used for support of the program management office. This program has moved to Project C4002 within this PE.

FY 2003

1.031

COST (\$ in Millions)

Accomplishment/Effort Subtotal Cost

RDT&E Articles Qty

FY 2005

0.000

FY 2004

0.000

EXI	HIBIT R-2a, RDT&E Project Justification		DATE:	
	•			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		•	
	0206623M Marine Corps Ground Combat/s	Supporting		
RDT&E, N /BA-7 Operational Sys Dev	Arms Systems	C1901 Marine	Corps Ground Weaponry F	PIP
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.036	0.000	0.000	
RDT&E Articles Qty				
	vere used to meet urgent needs in support of the 1st Mari		Eye UAV (Unmanned Aerial V	Vehicle) systems
were upgraded to like-new status and provide	ed to 1st MarDiv as a temporary loan for use in Operation	ı Iraqi Freedom (OIF).		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.384	0.000	0.000	
RDT&E Articles Qty				
MAGTF Expeditionary Family of Fightin	g Vehicles (MEFFV): Operational system development	, contractor support and program of	fice travel.	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost	0.000	5.950	0.000	
RDT&E Articles Qty				
	rvice forces to seamlessly train across range boundaries a apponent training at Marine Corps major bases and trainin 15.212		3.101	ii oi some racacai

EXHI	BIT R-2a, RDT&E Pro	ject Justification	on		DATE:						
A DDD ODDIA TION/DUDOCT, A OTIV/TV	DDOODAME: 514	ENIT NILIMBED	AND NAME		Т		Fe	bruary 2004			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM										
DDTSE N/DA 7 Operational Sup Day	0206623M Marine	Corps Ground	d Combat/Supp	C1001 Marina	Carno Craund W	namannı DID					
RDT&E, N /BA-7 Operational Sys Dev (U) PROJECT CHANGE SUMMARY:	Arms Systems		C 1901 Marine	Corps Ground We	eaponry PIP						
(U) PROJECT CHANGE SUMMART:		TT									
(II) EV 2004 Procident's Budgets	<u>FY2003</u> 14.245	<u>FY2004</u> 2.946	<u>FY2005</u> 3.112								
(U) FY 2004 President's Budget: (U) Adjustments from the President's Budget:	14.243	2.946	3.112								
. , ,											
(U) Congressional Program Reductions											
(U) Congressional Rescissions											
(U) Congressional Increases	4.700	5.95									
(U) Reprogrammings	1.706										
(U) Small Business Innovation Research	-0.221		0.044								
(U) Minor Affordability Adjustment	-0.518	-0.099	-0.011								
(U) FY 2005 President's Budget:	15.212	8.797	3.101								
CHANGE SUMMARY EXPLANATION:											
(U) Funding: See above.											
(U) Schedule: Not Applicable.											
(U) Technical: Not Applicable.											
(U) C. OTHER PROGRAM FUNDING SUMMA	RY:										
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cos		
(U) PMC (BLI#206200) Improved Recovery Veh	3.420	3.623	0.000	0.000		0.000	0.000	0.000	7.04		
(U) PMC (BLI#206300) MOD KITS AFS	3.884	15.007	11.844	10.229	11.728	11.596	10.294	Continuing	Continuin		
(U) PMC (BLI#220900) Mod Kits IWS	4.102	3.281	3.248	3.467	2.967	2.936	3.005	Continuing	Continuin		
(U) PMC (BLI#222000) Under \$5 Million	3.181	14.122	4.888	5.711	4.897	4.814	2.551	Continuing	Continuin		
(U) PMC (BLI#233400) Modular Weapon System	24.645	13.611	10.051	9.939		0.000	0.000	0.000	58.29		
(U) PMC (BLI#462000) Items <\$5M	22.613	0.460	0.461	0.460		0.000	0.000	Continuing	Continuin		
(U) PMC (BLI#473300) Fire Support Systems	33.376	28.235	10.215	2.193		0.000	0.000	Continuing	Continuin		
(U) PMC (BLI#475000) Items Under \$5M (Intel)	4.154	0.000	0.000	0.000		0.000	0.000	Continuing	Continuin		
(U) PMC (BLI#493000) Night Vision Equipment	24.403	30.006	26.100	27.655		12.851	19.199	Continuing	Continuin		
(U) PMC (BLI#643400) Amphibious Raid Equip	18.625	21.247	15.771	16.105		3.429	3.497	Continuing	Continuin		
(U) PMC (BLI#667000) Items Less Than \$5M	0.000	13.955	5.713	4.687		6.688	6.690	Continuing	Continuin		
(U) PMC (BLI#209500) M1A1 Firepower	0.000	4.191	36.873	33.168		22.980	0.000	Continuing	Continuin		
(U) PMC (BLI#473400) SURSS	0.000	2.043	8.866	11.730	0.927	0.954	0.971	Continuing	Continuin		
(U) Related RDT&E:											
• •	tion Creatomer Arms M	ova Air Force C	oast Guard and S	nagial Onesa	ions Commond						
(U) All Ground Weapons and Ground Ammuni	nuon systems: Army, N	avy, All Force, C	oast Guard, and S	peciai Operai	ions Command						

EXH	IIBIT R-2a, RDT&E Project Justification		DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat/Supporting		
RDT&E, N /BA-7 Operational Sys Dev	Arms Systems	C1901 Marine	Corps Ground Weaponry PIP
(U) D. ACQUISITION STRATEGY:		•	
and Rangefinder (LLDR) being developed by power enhancement used selected upgrades reliability, and technology up-grades to meet I design, integration and demonstration of Non-	helf modifications to developmental items. Target Location Design the Army. This component is integrated with hand-held computer from Army developmental programs to create a system that more Marine Corps requirements. M1A1 Fire Power Enhancement com -Developmental Item (NDI) technology. Down select to a single c ransition to production with the winning design by exercising a firm	running target ha readily meets Ma petitively awarde ontractor with the	and-off software developed by the Marine Corps. Fire arine Corps requirements. Modification covers safety, d two cost plus firm fixed price contracts to conduct parallel most promising concept, continuing with design
(U) E. MAJOR PERFORMERS: NSWC, Dahlgren, VA - Preparation of Trainin	g Materials, Manual Validation and Test Support.		
	ation and demonstration for the far target location modification.		

						DATE:						
		Exhibit R-3 Cost Analysis								ebruary 200	4	
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
		0206623M Marine Corp										
RDT&E, N /BA 7 Operationa		Combat/Supporting Arn		_	1	C1901 Marine Corps Ground Weaponry PIP						_
Cost Categories	Contract	Performing	Total	E) / 00	FY 03	E)/ 04	FY 04	E)/ 0E	FY 05	0	T. (.)	Target
	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete		Value o
PRODUCT DEVELOPMENT	α rype	SEE BELOW	COSI	COSI	Date	COSI	Date	COSI	Date	Complete	COSI	Contrac
AN/GVS5 REPLACEMENT	WR	MCLB, Barstow, CA	0.034	0.100	2Q03					Cont.	Cont.	
AN/GVS5 REPLACEMENT	RCP	Synetics, Inc. King George, VA	0.054	0.136	2Q03					Cont.	Cont.	
AN/GVS5 REPLACEMENT	RCP	MKI Woodbridge, VA	0.098	0.050	2Q03					Cont.	Cont.	
DRAGON EYE COW	RCP	NASC, Pax River, MD	0.030	0.036	3Q03					Cont.	Cont.	
Fam Raid and Recon	RCP	NSWDG, Va Beach, VA		0.196	1Q03					Cont.	Cont.	
Fam Raid and Recon	MIPR	NATICK Labs, Natick, MA		0.163	1Q03					Cont.	Cont.	
Fam Raid and Recon	WR	CSS. Panama City. FL		0.163	1Q03		1			Cont.	Cont.	<u> </u>
Fire Spt Mods	WR	Marine Det, Ft Sill, OK	0.180	0.050	1Q03					Cont.	Cont.	
Fire Spt Mods	MIPR	USArmy CECOM, Ft Monmouth, NJ	0.403	0.064	1Q03					Cont.	Cont.	
Fire Spt Mods	WR	NSWC, Crane, IN	0.030	0.047	2Q03					Cont.	Cont.	
Fire Spt Mods	MIPR	TACOM, Rock Island, IL	0.070	0.085	2Q03					Cont.	Cont.	
Fire Spt Mods	RCP	Tallahassee Tech, FL	0.019	0.600	3Q03					Cont.	Cont.	
Fire Spt Mods	RCP	Mandus Group, San Diego, CA	0.004	0.666	3Q03					Cont.	Cont.	
Fire Spt Mods	WR	MCLB, Barstow, CA	0.115	0.092	2Q03					Cont.	Cont.	
Fire Spt Mods	VAR	VARIOUS	0.295	0.050	2Q03					Cont.	Cont.	
Inf Weapon Mods	WR/RCP	MCCDC, Quantico, VA	0.817	0.050	1Q03	0.050	1Q04	0.051	1Q05	Cont.	Cont.	
Inf Weapon Mods	WR	WTBN, Quantico, VA	0.008	0.176	2Q03	0.211	2Q04	0.216	2Q05	Cont.	Cont.	
ISURSS	WR	Pax River. MD	0.252	0.385	2Q03	0.280	2Q04	0.286	2Q05	Cont.	Cont.	
MBC	RCP	Picatinny Arsenal, Picatinny, NJ		0.553	2Q03					Cont.	Cont.	
M1A1 Firepower	RCP	RAYTHEON/DRS Torrance, CA	14.494	3.811	2Q03					Cont.	Cont.	
M1A1 Mods	RCP	Booz-Allen Hamilton, McLean, VA	0.284	0.166	2Q03					Cont.	Cont.	
M1A1 Mods	MIPR	US Army CECOM, Ft Monmouth NJ		0.009	2Q03					Cont.	Cont.	
Nt. Vision Mod	WR/RCP	NSWC, Crane, IN	0.136	0.278	1Q03	0.685	1Q04	0.698	1Q05	Cont.	Cont.	1
Nt. Vision Mod	MIPR	Night Vision Lab, Ft Belvoir, VA	0.493	0.094	1Q03	0.100	1Q04	0.105	1Q05	Cont.	Cont.	
TWS	MIPR	Night Vision Lab, Ft Belvoir, VA	0.242	0.020	1Q03	0.044	1Q04	0.044	1Q05	Cont.	Cont.	
IPHABD	MIPR	NATICK, Natick, MA		0.460	1Q03	1				Cont.	Cont.	1
Underwater Recon (URC)	WR	CSS, Panama City, FL		0.320	2Q03					Cont.	Cont.	
Underwater Recon (URC)	RCP	CSS, Panama City, FL		0.243	2Q03					Cont.	Cont.	
TUV	WR	Redstone Arsenal, AL				0.064	1Q04	0.183	1Q05	Cont.	Cont.	
MCAGCC Range Inst	RCP	NSWC Corona Div, Corona, CA				2.925	2Q04					
MCAGCC Range Inst	TBD	TBD				2.900	3Q04					
Subtotal Product Dev			17.974	9.153		7.259		1.583		Cont.	Cont.	
Remarks:	1	1	1	0.100	1	203			1	33111.		1

		Exhibit R-3 Cost Analysis				DATE:			F	ebruary 200	14	
APPROPRIATION/BUDGET		ps Ground				Γ NUMBER		ΛΕ.		, , , , , , , , , , , , , , , , , , , 		
RDT&E, N /BA 7 Operationa				1	1	C1901 Ma	rine Corp	s Ground		y PIP		
Cost Categories		Performing	Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or System/Iter		Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value o
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
PROGRAM SUPPORT	14/5	SEE BELOW	2.212	0.000	4000						0 1	
AN/GVS-5	WR	MCSC, Quantico, VA	0.210	0.280	1Q03					Cont.	Cont.	_
AN/GVS-5	RCP	BAEST, Stafford, VA	0.395	0.786	1Q03					Cont.	Cont.	
AN/GVS-5	MIPR	Marine Det, Ft Sill, OK	0.005	0.010	2Q03					Cont.	Cont.	
AN/GVS-5	WR	NSWC, Dahlgren, VA	0.095	0.200	2Q03					Cont.	Cont.	
Fam Artillery Munitions	WR/RCP	BAEST, Stafford, VA	0.188	0.039	1Q03					Cont.	Cont.	
Fam of Raid and Recon	RCP	Quantico, VA		0.302	1Q03					Cont.	Cont.	
Fam of Raid and Recon	WR	MCSC, Quantico, VA		0.031	1Q03					Cont.	Cont.	
Fire Supt Mods	WR/RCP	BAEST, Stafford, VA	1.349	0.191	1Q03					Cont.	Cont.	
Inf Wpns Mods	WR	MCSC, Quantico, VA	0.577	0.100	1Q03	0.135	1Q04	0.150	1Q05	Cont.	Cont.	
Inf Wpns Mods	RCP	BAEST, Stafford, VA	0.470	0.269	1Q03	0.352	1Q04	0.386	1Q05	Cont.	Cont.	
INF Wpns Mods	WR/RCP	TBD						0.013	1Q05	Cont.	Cont.	
ISURSS	RCP	BAEST, Stafford, VA	0.179	0.179	1Q03	0.179	1Q04	0.179	1Q05	Cont.	Cont.	
ISURSS (Civ Sal)	WR	MCSC, Quantico, VA				0.140	1Q04	0.140	1Q05	Cont.	Cont.	
ISURSS	WR	MCSC, Quantico, VA	0.019	0.015	1Q03	0.020	1Q04	0.020	1Q05	Cont.	Cont.	
ISURSS	RCP	TBD				0.204	2Q04	0.082	2Q05	Cont.	Cont.	
ISURSS (Analysis)	RCP	TBD				0.050	2Q04	0.050	1Q05	Cont.	Cont.	
M1A1 Firepower	MIPR	GDLS, Warren, MI/ARDEC/NVL	0.972	0.049	2Q03					Cont.	Cont.	
M1A1 Firepower	WR	MCSC, Quantico, VA		0.334	1Q03					Cont.	Cont.	
M1A1 Mods	WR	MCSC, Quantico, VA	0.196	0.061	1Q03					Cont.	Cont.	
MBC	WR	MCSC, Quantico, VA	0.075	0.572	1Q03					Cont.	Cont.	
Nt Vision Mod	WR	MCSC, Quantico, VA	0.113	0.066	1Q03	0.126	1Q04	0.137	1Q05	Cont.	Cont.	1
Nt Vision Mod	RCP	BAEST, Stafford, VA	0.297	0.000	2Q03	0.053	2Q04	0.140	2Q05	Cont.	Cont.	
TWS	RCP	BAEST, Stafford, VA	0.037	2.300		0.012	2Q04	0.012	2Q05	Cont.	Cont.	1
Underwater Recon (URC)	WR	MCSC, Quantico, VA	0.007	0.073	2Q03	0.0.2		0.0.2		Cont.	Cont.	1
MEFFV	RCP	BAEST, Stafford, VA	0.100	0.384	1Q03					0.000	0.484	1
			5.277	3.941		1.271		1.309		Cont.	Cont.	

			UNCLA	ASSIT IL	. <u>U</u>							
		Exhibit R-3 Cost Analysis				DATE:			F	ebruary 200	14	
APPROPRIATION/BUDGET A	CTIVITY	PROGRAM ELEMENT	a Cuarrad			PROJECT	NUMBER	AND NAM		bruary 20	· ·	
RDT&E, N /BA 7 Operational	I Sve Dov	0206623M Marine Corps Combat/Supporting Arn				C1901 Ma	rine Corp	s Ground	Weanonry	, DID		
Cost Categories	Contract	Performing	Total	FY 03	FY 03	01301 WIC	FY 04	3 Orouna	FY 05	, <u> </u>		Target
(Tailor to WBS, or System/Iten		Activity &	PY s	COST	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location	Cost		Date	Cost	Date	Cost	Date	Complete	l l	Contrac
T&E		SEE BELOW										
AN/GVS-5 Replacement	WR	MCOTEA, Quantico, VA	0.095	0.145	2Q03					Cont.	Cont.	
AN/GVS-5 Replacement	RCP	Asbury Int., Sterling, VA	0.023	0.192	2Q03					Cont.	Cont.	
Fam Artillery Munitions	WR/RCP	NSWC, Crane, IN	0.182	0.222	1Q03					Cont.	Cont.	
Family Small Craft Mods	WR	NSWC, Crane, IN	0.323	0.020	1Q03					Cont.	Cont.	
Family Small Craft Mods	WR	Carderock, MD		0.044	1Q03					Cont.	Cont.	
Fire Spt Mods	WR	MCOTEA, Quantico, VA	0.025	0.063	2Q03					Cont.	Cont.	
Inf Wpn Mods	WR	MCOTEA, Quantico, VA	0.080	0.060	2Q03	0.067	2Q04	0.099	2Q05	Cont.	Cont.	
Inf Wpn Mods	WR	MCCDC, Quantico, VA	0.235	0.050	2Q03	0.050	2Q04	0.085	2Q05	Cont.	Cont.	
MBC	WR	NSWC, Crane, IN/ Ft Monmouth, NJ		0.412	2Q03					Cont.	Cont.	
M1A1 Firepower	MIPR	ARDEC, Rock Island, IL	0.095	0.025	2Q03					Cont.	Cont.	
Nt Vision Mods	WR	MCOTEA, Quantico, VA	0.100	0.025	2Q03	0.025	2Q04	0.025	2Q05	Cont.	Cont.	
Subtotal T&E			1.158	1.258		0.142		0.209		Cont.	Cont.	
Remarks:			1.100	1.200		0.142		0.200		Oont.	Oont.	
Cost Categories	Contract	Performing	Total	FY 03	FY 03		FY 04		FY 05			Target
(Tailor to WBS, or System/Iten	Method	Activity &	PY s	Cost	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Requirements)	& Type	Location	Cost		Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
MANAGEMENT		SEE BELOW										
AN/GVS-5 REPLACEMENT	RCP	BAEST, Stafford, VA	0.095	0.100	1Q03					Cont.	Cont.	
Fire Supt Mods	WR	MCSC, Quantico, VA	0.731	0.080	1Q03					Cont.	Cont.	
MBC	RCP	BAEST, Stafford, VA		0.260	1Q03					Cont.	Cont.	
M1A1 Firepower	RCP	BAEST, Stafford, VA	0.080	0.025	2Q03					Cont.	Cont.	
Underwater Recon (URC)	RCP	BAEST, Stafford, VA		0.395	2Q03					Cont.	Cont.	
MCAGCC Range Inst	WR	NSWC Corona Div, Corona, CA				0.125	2Q04					
Subtotal Management			0.906	0.860		0.125		0.000		Cont.	Cont.	
Remarks:		•				-						
T			T	15.212		8.797	<u> </u>	3.101		Cont.	Cont.	
Total Cost												

			DATE:
	Exhibit R-4/4a Schedule Profile/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT N	NUMBER AND NAME
RDT&E, N /BA 7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C1901 Mari	ne Corps Ground Weaponry PIP

THERMAL WEAPON SIGHT (TWS)

Fiscal Year	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	Total
OMNI Cntr Awd (Jul 98)													
USA MS II (Aug 98)													
OT&E (Bridge) USA		Fel	00-Mar	0									
IOT&E (USMC)		•	Aug 00										
Indep Log Assessment		•	Sep 00										
MCOTEA IER			Sep 00	-Nov 00									
ULSS			Sep	00 -Jan 0									
USMC ADM (MS I/III)				Aug 01									
Awd OMNI Cntr Options			Ĭ	Sept01	Oct 02	Oct 03	Oct 04						
TWS Production							July 02-	Aug 04					
Fielding Decision					Oct 02								
IOC						Sept03							
FOC - Medium						l `ı	Sep 04						
						ľ							

Program Funding Summary (APPN, BLI #, NOMEN)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(U) RDT&E,N	0.020	0.056	0.056	0.000	0.000	0.000	0.000	0.000	0.132
(U) PMC, BLI# 493000 Night Vision Equip	17.393	18.911	13.924	0.000	0.000	0.000	0.000	0.000	50.228

A 7 Operational Sys Dev 0206623M Marine Corps Gro Thermal Weapon Sight SCHEDULE DETAIL Fielding Decision IOC	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	y PIP				
Fielding Decision	112003	112004	1 1 2003	1 1 2000	1 1 2007	1 1 2000		C1901 Marine Corps Ground Weaponry PIP				
							2000					
							1					
	1st QTR											
	4th QTR											
FOC		4th QTR										
							1					
							-					

EXHIBI*	ΓR-2a, RDT&E Proje	ct Justification	on			DATE:				
							Februar	y 2004		
PROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME										
RDT&E, N /BA-7 Operational Sys Dev	0206623M M	arine Corps	Ground Comb	oat Arms Sys	tems	C2086 Marin	e Enhancem	ent Program	nt Program (MEP)	
								Cost to	Total	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program	
Project Cost	2.117	2.603	2.655	2.608	2.651	2.734	2.790	Cont	Cont	
RDT&E Articles Qty										

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Marine Enhancement Program (MEP) provides Research, Development, Test and Evaluation funding for low visibility, low cost items. It focuses on items of equipment which will benefit the individual Marine by reducing the load, increasing survivability, enhancing safety and improving combat effectiveness. The emphasis of the program is on non-developmental item/commercial off the shelf (NDI/COTS) available items which can be quickly evaluated and fielded. This program is coordinated with the Army's Soldier Enhancement Program and the Special Operations Command.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.750	0.873	0.854
RDT&E Articles Qty			

Explore NDI equipment that will improve the combat effectiveness and enhance safety and survivability of the Individual Marine.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.722	0.864	0.898
RDT&E Articles Qty			

Explore clothing and individual equipment NDI categories.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.645	0.866	0.903
RDT&E Articles Qty			

Explore ground weapons, communications and command and control equipment NDI categories.

(U) Total \$ 2.117 2.603 2.655

EXHIBIT R-2a	EXHIBIT R-2a, RDT&E Project Justification								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELE 0206623M Mai	ms	C2086 Marine	February Enhancemer		(MEP)			
(U) Project Change Summary:	FY2003	FY2004	FY2005						
(U) FY 2004 President's Budget:	2.335	2.632	2.669						
(U) Adjustments from the President's Budget: (U) Congressional/OSD Program Reductions (U) Congressional Rescissions (U) Congressional Increases (U) Reprogrammings (U) SBIR/STTR Transfer (U) Minor Affordability Adjustment (U) FY03 Update (U) FY 2005 Presbud: CHANGE SUMMARY EXPLANATION: (U) Funding: See Above (U) Schedule: Not Applicable.	0.150 -0.368 2.117	-0.029 2.603	-0.014 2.655						
(U) Technical: Not Applicable. (U) C. OTHER PROGRAM FUNDING SUMMARY:									
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009 T	o Compl	Total Cos
(U) PMC (BLI #221100) MEP	7.131	6.847	4.024	3.827	3.822	3.956	4.037	Continuing	Continuin
(U) Related RDT&E: PE 0604713A (Combat Feeding	ng, Clothing and E	quipment)							
(U) D. ACQUISITION STRATEGY: NDI/COTS									
		2.4.CHODDIN				Evhilit D	2a. RDTE.N I	Dualage III-	lification

Exhibit R-2a, RDTE,N Project Justification (Exhibit R-2a, page 26 of 58)

	EXHIBIT R-2	a, RDT&E Project Justification	DATE:
			February 2004
APPROPRIATION/BUDGET ACT	TVITY	PROGRAM ELEMENT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sy	rs Dev	0206623M Marine Corps Ground Combat Arms Systems	C2086 Marine Enhancement Program (MEP)
(U) E. MAJOR PERFORMERS:			
Performer	Effort	FY Award Date (\$000) Am	ıt

<u>Performer</u>	<u>Effort</u>	<u>FY</u>	Award Date	(\$000) Amt
USA, SBCCOM, Natick Mass	Product Development	2003	Dec-02	183
USA, SBCCOM, Natick Mass	DT&E	2003	Mar-03	290
NSWC, Crane Indiana	Product Development	2003	Dec-02	52
NSWC, Crane Indiana	DT&E	2003	Dec-02	249
NAWC, Pax River, Maryland	Product Development	2003	Dec-02	63
NAWC, Pax River, Maryland	DT&E	2003	Dec-02	276
USA, SBCCOM, Natick Mass	Product Development	2004	Dec-03	142
USA, SBCCOM, Natick Mass	DT&E	2004	Jan-04	299
USA, SBCCOM, Natick Mass	Product Development	2005	Dec-04	144
USA, SBCCOM, Natick Mass	DT&E	2005	Dec-04	308
NSWC, Crane Indiana	Product Development	2005	Dec-04	97
NSWC, Crane Indiana	DT&E	2005	Dec-04	100
NAWC, Pax River, Maryland	Product Development	2005	Dec-04	72
NAWC, Pax River, Maryland	DT&E	2005	Dec-04	373

					DATE:								
Exhibit R-3 Cost Analysis									Februar	y 2004			
APPROPRIATION/BUDGET A	CTIVITY		PROGRAM ELEMEI			PROJEC	CT NUMB	ER AND	NAME				
			Ground Combat Ar	ms									
RDT&E, N /BA 7 Operationa	I Sys Dev		Systems		C2086 Marine Enhanced Program (MEP)								
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			Target
	Method	Activity &		PY s	FY 03		FY 04	Award		Award	Cost to	Total	
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Product Development	WR		lluegrass, Lex, KY	2.499	0.049		0.051		0.053		Cont.	Cont.	
Product Development	WR		v, Fallbrook, CA	0.278			0.038		0.041		Cont.	Cont.	
Product Development	_	MCTSSA, C	•	0.631	0.006		0.056		0.056		Cont.	Cont.	
Product Development		NCTRF, Ab		0.533	0.081	1Q03	0.114		0.115		Cont.	Cont.	
Product Development	MIPR	NATICK, Na		1.559	0.183		0.142		0.144		Cont.	Cont.	
Product Development	MIPR		berdeen, MD	0.284	0.010	2Q03	0.017	1Q04	0.017		Cont.	Cont.	
Product Development	MIPR	NSMA, Was		0.382	0.020		0.020		0.020		Cont.	Cont.	
Product Development	MIPR	TACOM, Wa	arren MI	0.100	0.012	2Q03	0.012	1Q04	0.013	1Q05	Cont.	Cont.	
Product Development	MIPR	2nd MARDI	V, CamLej, NC	0.465	0.030	2Q03	0.036	1Q04	0.036	1Q05	Cont.	Cont.	
Product Development	WR	2nd MARDI	V, CamLej, NC	0.080	0.005	1Q03	0.008	1Q04	0.008	1Q05	Cont.	Cont.	
Product Development	WR	NCCOSC, S	San Diego, CA	0.269	0.014	2Q03	0.020	1Q04	0.020	1Q05	Cont.	Cont.	
Product Development	WR	NCSS, Pana	ama City, FL	1.935	0.030	1Q03	0.033	1Q04	0.034	1Q05	Cont.	Cont.	
Product Development	WR	NSWC, Cra	ne, IN	2.169	0.050	1Q03	0.067	1Q04	0.097	1Q05	Cont.	Cont.	
Product Development	WR	NAWC Air E	Div, Pax River, MD	0.407	0.063	1Q03	0.071	1Q04	0.057	1Q05	Cont.	Cont.	
Product Development	WR	II MEF, Can	nLej, NC	0.100	0.007	1Q03	0.018	1Q04	0.019	1Q05	Cont.	Cont.	
<u> </u>													
Subtotal Product Dev				11.691	0.596		0.703		0.730		Cont.	Cont.	
Remarks:				•	•	!	•	•	•	•			
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			Target
-	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Integrated Logistics Support	WR	MCCDC, Q	uantico, VA	2.208			0.098	1Q04	0.099	1Q05	Cont.	Cont.	
Integrated Logistics Support	Various	MISC		4.679	0.060	Various	0.070	Various	0.076	Various	Cont.	Cont.	
0.11.110				0.00=	0.440		0.400		0.477				
Subtotal Support Remarks:				6.887	0.110		0.168		0.175				

R-1 SHOPPING LIST - Item No. 183

	PROGRAM ELEME Ground Combat As Systems Performing	-	1		T NUMB	ER AND	Februar NAME	, 2007			
Sys Dev Contract	Ground Combat Air Systems	-			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	21(7(1)	,				
Contract	Systems										
Contract			C2086 Marine Enhanced Program (MEP)								
		Total		FY 03	Iai IIIE LI	FY 04	riogram	FY 05			Target
	Activity &	PY s	FY 03	Award	FY 04		FY 05	Award	Cost to	Total	Value of
	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
	MCTSSA, CamPen, CA	1.920			0.055	1Q04	0.057	1Q05	Cont.	Cont.	Contrac
									Cont.	Cont.	
									Cont.		
							0.239	1Q05	Cont.	Cont.	
					0.027		0.028	1Q05	Cont.	Cont.	
	NCCOSC, San Diego, CA	0.792			0.057		0.057	1Q05	Cont.	Cont.	
WR	NCSS, Panama City, FL	6.249			0.028	1Q04	0.029	1Q05	Cont.	Cont.	
WR	NSWC, Crane, IN	7.034	0.135	1Q03	0.247	1Q04	0.347	1Q05	Cont.	Cont.	
WR	NAWC Air Div, Pax River, MD	1.357	0.276	1Q03	0.274	1Q04	0.373	1Q05	Cont.	Cont.	
WR	NSWC, Indian Head, MD	0.596	0.021	3Q03	0.02	1Q04	0.021	1Q05	Cont.	Cont.	
Various	MISC	9.431	0.120	Various	0.296	Various	0.095	Various	Cont.	Cont.	
		36.089	1.411		1.732		1.750		Cont.	Cont.	
	36.089.00	n									
Contract				FY 03		FY 04		FY 05			Target
			FY 03		FY 04		FY 05		Cost to	Total	Value of
											Contract
<u>,ре</u>		10001	000.	2 4.10	000.	2 4.10	•••	2 0.10		000.	00
		0.000	0.000		0.000		0.000		Cont.	Cont.	
		54.667	2.117		2.603		2.655		Cont.	Cont.	
	MIPR MIPR MIPR WR/RCP MIPR MIPR MIPR WR WR WR WR WR WR WR WC WR WR WR WR WR WR WR WR WR WR WR WR WR	MIPR ARL/APG Aberdeen, MD MIPR PPSC, Phjladelphia, PA WR/RCP MCAGCC 29 Palms, CA MIPR NSMA, Washington DC MIPR TACOM, Warren MI MIPR NHRC, Crane, IN WR 2nd MARDIV, CamLej, NC WR NCCOSC, San Diego, CA WR NCSS, Panama City, FL WR NSWC, Crane, IN WR NAWC Air Div, Pax River, MD WR NSWC, Indian Head, MD Various MISC Contract Performing Method Activity &	MIPR NATICK, Natick, MA 3.070 MIPR ARL/APG Aberdeen, MD 0.862 MIPR PPSC, Phjladelphia, PA 0.079 WR/RCP MCAGCC 29 Palms, CA 0.389 MIPR NSMA, Washington DC 0.616 MIPR TACOM, Warren MI 0.272 MIPR NHRC, Crane, IN 2.270 WR 2nd MARDIV, CamLej, NC 0.273 WR NCCOSC, San Diego, CA 0.792 WR NCSS, Panama City, FL 6.249 WR NSWC, Crane, IN 7.034 WR NAWC Air Div, Pax River, MD 1.357 WR NSWC, Indian Head, MD 0.596 Various MISC 9.431 36,089.000 Contract Performing Total Method Activity & PY s & Type Location Cost	MIPR NATICK, Natick, MA 3.070 0.290 MIPR ARL/APG Aberdeen, MD 0.862 0.180 MIPR PPSC, Phjladelphia, PA 0.079 0.026 WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 MIPR NSMA, Washington DC 0.616 0.035 MIPR TACOM, Warren MI 0.272 0.033 MIPR NHRC, Crane, IN 2.270 0.100 WR 2nd MARDIV, CamLej, NC 0.273 0.026 WR NCCOSC, San Diego, CA 0.792 0.045 WR NCSS, Panama City, FL 6.249 0.030 WR NSWC, Crane, IN 7.034 0.135 WR NAWC Air Div, Pax River, MD 1.357 0.276 WR NSWC, Indian Head, MD 0.596 0.021 Various MISC 9.431 0.120 Contract Performing Total Method Activity & PY s FY 03 K Type Location Cost Cost	MIPR NATICK, Natick, MA 3.070 0.290 2Q03 MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 2Q03 MIPR NSMA, Washington DC 0.616 0.035 1Q03 MIPR TACOM, Warren MI 0.272 0.033 1Q03 MIPR NHRC, Crane, IN 2.270 0.100 2Q03 WR 2nd MARDIV, CamLej, NC 0.273 0.026 1Q03 WR NCCOSC, San Diego, CA 0.792 0.045 2Q03 WR NCSS, Panama City, FL 6.249 0.030 1Q03 WR NSWC, Crane, IN 7.034 0.135 1Q03 WR NSWC, Indian Head, MD 0.596 0.021 3Q03 Various MISC 9.431 0.120 Various 36,089.000 Contract PY s FY 03 <td< td=""><td>MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 2Q03 0.032 MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.034 MIPR NHRC, Crane, IN 2.270 0.100 2Q03 0.238 WR 2nd MARDIV, CamLej, NC 0.273 0.026 1Q03 0.027 WR NCCOSC, San Diego, CA 0.792 0.045 2Q03 0.057 WR NSWC, Spanama City, FL 6.249 0.030 1Q03 0.224 WR NSWC, Irane, IN 7.034 0.135 1Q03 0.274 WR NAWC Air Div, Pax River, MD 1.357 0.276 1Q03 0.274</td><td>MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 1Q04 MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 1Q04 MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 2Q03 0.032 1Q04 MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 1Q04 MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.034 1Q04 MIPR NHRC, Crane, IN 2.270 0.100 2Q03 0.238 1Q04 WR NCCOSC, San Diego, CA 0.792 0.045 2Q03 0.057 1Q04 WR NCSS, Panama City, FL 6.249 0.030 1Q03 0.028 1Q04 WR NSWC, Crane, IN 7.034 0.135 1Q03 0.247 1Q04 WR NSWC, Indian Head, MD 0.596 0.021 3Q03</td><td>MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 1Q04 0.308 MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 1Q04 0.040 MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 0.028 WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 2Q03 0.032 1Q04 0.033 MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 1Q04 0.033 MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.038 1Q04 0.034 MIPR NHRC, Crane, IN 2.270 0.100 2Q03 0.238 1Q04 0.034 MIPR NHRC, Crane, IN 2.273 0.026 1Q03 0.027 1Q04 0.028 WR NCCOSC, San Diego, CA 0.792 0.045 2Q03 0.057 1Q04 0.029 WR NSWC, Crane, IN 7.034 0.135 1Q03</td><td>MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 1Q04 0.308 1Q05 MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 1Q04 0.040 1Q05 MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 0.028 1Q05 WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 2Q03 0.032 1Q04 0.033 1Q05 MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 1Q04 0.038 1Q05 MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.034 1Q04 0.034 1Q05 MIPR NHRC, Crane, IN 2.270 0.100 2Q03 0.238 1Q04 0.034 1Q05 WR 2nd MARDIV, CamLej, NC 0.273 0.026 1Q03 0.027 1Q04 0.028 1Q05 WR NCCOSC, San Diego, CA 0.792 0.045 2Q03 0.057</td></td<> <td>MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 1Q04 0.308 1Q05 Cont. MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 1Q04 0.040 1Q05 Cont. MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 0.028 1Q05 Cont. MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 0.038 1Q05 Cont. MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 1Q04 0.038 1Q05 Cont. MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.034 1Q04 0.034 1Q05 Cont. MIPR NHRC, Crane, IN 2.270 0.100 2Q03 0.238 1Q04 0.239 1Q05 Cont. WR NCCOSC, San Diego, CA 0.792 0.045 2Q03 0.057 1Q04 0.057 1Q05</td> <td>MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 1Q04 0.308 1Q05 Cont. Cont. MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 1Q04 0.040 1Q05 Cont. Cont. Cont. MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 0.028 1Q05 Cont. Cont. WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 2Q03 0.032 1Q04 0.033 1Q05 Cont. Cont. Cont. MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 1Q04 0.038 1Q05 Cont. Cont. Cont. MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.038 1Q04 0.038 1Q05 Cont. Con</td>	MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 2Q03 0.032 MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.034 MIPR NHRC, Crane, IN 2.270 0.100 2Q03 0.238 WR 2nd MARDIV, CamLej, NC 0.273 0.026 1Q03 0.027 WR NCCOSC, San Diego, CA 0.792 0.045 2Q03 0.057 WR NSWC, Spanama City, FL 6.249 0.030 1Q03 0.224 WR NSWC, Irane, IN 7.034 0.135 1Q03 0.274 WR NAWC Air Div, Pax River, MD 1.357 0.276 1Q03 0.274	MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 1Q04 MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 1Q04 MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 2Q03 0.032 1Q04 MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 1Q04 MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.034 1Q04 MIPR NHRC, Crane, IN 2.270 0.100 2Q03 0.238 1Q04 WR NCCOSC, San Diego, CA 0.792 0.045 2Q03 0.057 1Q04 WR NCSS, Panama City, FL 6.249 0.030 1Q03 0.028 1Q04 WR NSWC, Crane, IN 7.034 0.135 1Q03 0.247 1Q04 WR NSWC, Indian Head, MD 0.596 0.021 3Q03	MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 1Q04 0.308 MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 1Q04 0.040 MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 0.028 WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 2Q03 0.032 1Q04 0.033 MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 1Q04 0.033 MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.038 1Q04 0.034 MIPR NHRC, Crane, IN 2.270 0.100 2Q03 0.238 1Q04 0.034 MIPR NHRC, Crane, IN 2.273 0.026 1Q03 0.027 1Q04 0.028 WR NCCOSC, San Diego, CA 0.792 0.045 2Q03 0.057 1Q04 0.029 WR NSWC, Crane, IN 7.034 0.135 1Q03	MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 1Q04 0.308 1Q05 MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 1Q04 0.040 1Q05 MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 0.028 1Q05 WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 2Q03 0.032 1Q04 0.033 1Q05 MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 1Q04 0.038 1Q05 MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.034 1Q04 0.034 1Q05 MIPR NHRC, Crane, IN 2.270 0.100 2Q03 0.238 1Q04 0.034 1Q05 WR 2nd MARDIV, CamLej, NC 0.273 0.026 1Q03 0.027 1Q04 0.028 1Q05 WR NCCOSC, San Diego, CA 0.792 0.045 2Q03 0.057	MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 1Q04 0.308 1Q05 Cont. MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 1Q04 0.040 1Q05 Cont. MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 0.028 1Q05 Cont. MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 0.038 1Q05 Cont. MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 1Q04 0.038 1Q05 Cont. MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.034 1Q04 0.034 1Q05 Cont. MIPR NHRC, Crane, IN 2.270 0.100 2Q03 0.238 1Q04 0.239 1Q05 Cont. WR NCCOSC, San Diego, CA 0.792 0.045 2Q03 0.057 1Q04 0.057 1Q05	MIPR NATICK, Natick, MA 3.070 0.290 2Q03 0.299 1Q04 0.308 1Q05 Cont. Cont. MIPR ARL/APG Aberdeen, MD 0.862 0.180 2Q03 0.038 1Q04 0.040 1Q05 Cont. Cont. Cont. MIPR PPSC, Phjladelphia, PA 0.079 0.026 3Q03 0.027 1Q04 0.028 1Q05 Cont. Cont. WR/RCP MCAGCC 29 Palms, CA 0.389 0.019 2Q03 0.032 1Q04 0.033 1Q05 Cont. Cont. Cont. MIPR NSMA, Washington DC 0.616 0.035 1Q03 0.038 1Q04 0.038 1Q05 Cont. Cont. Cont. MIPR TACOM, Warren MI 0.272 0.033 1Q03 0.038 1Q04 0.038 1Q05 Cont. Con

EXHIBIT	R-2a, RDT&E	Project Justi	fication	-	-		DATE:	_	
	February 2004								
APPROPRIATION/BUDGET ACTIVITY	NAME								
	0206623M Marine Corps Ground C2503 FAMILY OF COMBA								
RDT&E, N /BA-7 Operational Sys Development	Combat/Sup	porting Arm							
								Cost to	Total
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program
Project Cost	1.070	3.699	3.959	7.204	7.509	9.087	10.143	Cont	Cont
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Family of Combat Equipment Support and Services provides research, development, test and evaluation on low cost items with emphasis on non-developmental/commercially available items. Items approved for procurement will transition into Procurement Marine Corps and Operations and Maintenance Marine Corps procurement lines for Individual Combat Equipment, Medical Equipment, and Shelters. The focus is to provide the state of the art combat equipment (e.g. lightweight helmet, sleeping bags, load bearing systems, etc.), medical equipment (e.g. Authorized Medical Allowance (AMAL)/Authorized Dental Allowance (ADAL), Enroute Care, Mobile Medical Monitors, etc.), and family of shelters (softwall, different frames and fabrics, etc.). The benefit will be reduced logistics, less weight, improved combat effectiveness, better echelon I and II care for Marines, improved individual and unit protection, tactical mobility, etc. The employment of state-of-the art equipment will ensure Marines are equipped with the best items that technology can offer.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.835	1.027	1.058
RDT&E Articles Qty			

Initial Issue: Exploration of new commercial technologies that can be inserted into current body armor, load bearing equipment, footwear and clothing systems to reduce weight, increase survivability, lethality and mobility. Both torso and head/neck ballistic studies will be conducted to assess blunt trauma/shock forces on the body and how ballistic materials/designs can afford the most protection while reducing weight. Modeling and simulation initiatives will baseline current equipment and enable configuration/compatibility management of new equipment.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.845	1.361
RDT&E Articles Qty			

Family of Field Medical Equipment: Development of new Authorized Dental and Medical Allowance Lists (AMALs and ADALs) for new technology insertion and to significantly reduce the weight and cube size to enhance support of the operational forces and comply with expeditionary maneuver warfare.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.116	0.718	0.533
RDT&E Articles Qty			

Family of Field Medical Equipment: Testing of Commerical-off-the-shelf/Non-developmental item (COTS/NDI), medical equipment for the enroute care to evaluate functionality of the patient transportation.

FYHIRIT	R-2a, RDT&E Pr	niect Justific	ration		DATE:	
EXHIBIT	IN Zu, NDIGETT	oject oustine	cation		DATE.	February 2004
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Development	PROGRAM EL 0206623M Ma Combat/Suppo	rine Corps G	Ground		IUMBER AND NAME ILY OF COMBAT EQUI	PMENT SUPPORT AND
COST (\$ in Millions)		FY 200	03	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000		0.600	0.500	
RDT&E Articles Qty						
Family of Field Medical Equipment: Explore avail	lable technology to a	ascertain the hu	uman/medical ef	fects of the Thermobaric	Warfare threat on operation	nal forces.
COST (\$ in Millions)		FY 200	03	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.119	9	0.436	0.434	
RDT&E Articles Qty						
Family of Field Medical Equipment: Minimization	of the Forward Res					_
COST (\$ in Millions)		FY 200		FY 2004	FY 2005	_
Accomplishment/Effort Subtotal Cost		0.000	0	0.073	0.073	
RDT&E Articles Qty						
Family of Shelters and Shelter Equipment: Design the Marine Corps shelter programs.	n and engineering to	increase capat	bility, reduce we	eight, cost and cube of soi	tt wall shelters. Explore an	d test new technologies to insert into
(U) Total \$ 0.000		1.070		3.699	3.959	
(U) PROJECT CHANGE SUMMARY						
	FY2003	FY2004	FY2005			
(U) FY 2004 President's Budget:	1.087	3.741	3.976			
(U) Adjustments from the President's Budget:						
(U) Congressional/OSD Program Reductions						
(U) Congressional Rescissions						
(U) Congressional Increases						
` '						
(U) Reprogrammings	0.022					
(U) SBIR/STTR Transfer	-0.022	0.040	-0.017			
(U) Minor Affordability Adjustment	0.005	-0.042	-0.01/			
(U) FY03 Update		2 (00	2.050			
(U) FY 2005 OSD Budget:	1.070	3.699	3.959			
CHANGE SUMMARY EXPLANATION:						
(U) Funding: See Above.						
(U) Schedule: Not Applicable. (U) Technical: Not Applicable.						
TO TACUNICAL MOTANNICANA						

R-1 SHOPPING LIST - Item No. 183

EXHIBIT	EXHIBIT R-2a, RDT&E Project Justification						
			February 2004				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND	NAME				
	0206623M Marine Corps Ground	C2503 FAMILY OF COM	BAT EQUIPMENT SUPPORT AND				
RDT&E, N /BA-7 Operational Sys Development	Combat/Supporting Arms Systems	SERVICES					
	-	<u> </u>					

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009 To	o Compl	Total Cost
(U) PMC Line (BLI#652200) Field Med Equip	11.671	4.144	6.027	2.432	3.179	3.188	3.265	Cont	Cont

^{**} FY 02/FY 03 Forward Resuscitative Surgery System, Enroute Care System & Digital Radiography are the procurement programs contained within PMC Field Medical Equipment associated with Initial Issue.

(U) Related RDT&E: Not Applicable.

(U) D. ACQUISITION STFRATEGY:

INITIAL ISSUE: Items are all non-ACAT programs and utilize various acquisition strategies. Initial Issue programs leverage heavily on current developments and technology in commercial industry. As a result, government's R&D phase is relatively short. Contracting is performed by either Marine Corps Systems Command Contracting Directorate or the U.S. Army Natick Research, Development & Engineering Center via Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts. ID/IQ contracts are used to decrease the government risk, allow maximum contract flexibility and capitalize on the savings realized by utilizing Economic Order Quantities.

SHELTERS: The Initial Issue R&D Shelter acquisition strategy is to modify non-developmental Items (NDI) to further meet the requirements of the Marine Corps, to support development of multi-service items through inter-service agreements and to adopt Commercial-Off-the-Shelf (COTS)/NDI Marine Corps Specific items.

FAMILY OF FIELD MEDICAL EQUIPMENT: These programs leverage heavily on current development and technology in the commercial medical industry. Field Medical acquisition strategy is to modify non-developmental items (NDI) and adopt Commercial-Off-The-Shelf (COTS) items. Various strategies are utilized.

(U) E. MAJOR PERFORMERS:

INITIAL ISSUE: U.S. Army Natick Research, Development and Engineering Center, Natick, Mass.

SHELTERS: TBD based on current technology being pursued in FY-04-FY05.

FAMILY OF FIELD MEDICAL EQUIPMENT: TBD base on current technology being pursued in FY04-FY05.

(U) SCHEDULE PROFILE: Not Applicable.

			<u> </u>	10LA3								
					DATE:							
		-3 Cost Analysis	1				_		ry 2004			
APPROPRIATION/BUDGET <i>F</i>	ACTIVITY			M ELEMEN			PROJEC	T NUMBER	rand nai	ME		
				Marine Co								
RDT&E, N /BA 7 Operationa	I Sys Dev	elopment	Combat/S	supporting A	Arms Sys	tems	C2503 In	itial Issue				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value o
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contra
Development/Tech Insertion	MIPR	USASSCOM Natick, MA	2.967	0.527	1Q/03	0.553	1Q/04	0.717	1Q/05	Cont.	Cont.	
Development/Tech Insertion	FFP	TBD				1.397	2Q/04	1.246	2Q/05	Cont.	Cont.	
Subtotal Product Dev			2.967	0.527		1.950		1.963		Cont.	Cont.	
Remarks:		1	2.007	0.021		1.000	ļ	1.000		001111	00111	
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or System/Iter	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value o
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contra
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or System/Iter		Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value o
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Operational Test & Eval	MIPR	USASSCOM Natick, MA	0.939			0.269		0.359		Cont.	Cont.	
Field User Evaluations	WR	FMF	0.625	0.142	2Q/03	1.300	2Q/04	1.452	2Q/05	0.000	3.519	
Subtotal T&E			1.564	0.390		1.569		1.811		Cont.	Cont.	
Remarks:												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or System/Iter		Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value o
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Contractor Eng Suppt	FFP/O	QUANTICO, VA	0.275	0.039		0.051	1Q/04	0.064		Cont.	Cont.	
Travel	WR	MCSC	0.102		1Q/03	0.046		0.038	1Q/05	Cont.	Cont.	
Labor	WR	MCSC		0.073	1Q/03	0.083	1Q/04	0.083	1Q/05	Cont.	Cont.	
Subtotal Management			0.377	0.153		0.180		0.185		Cont.	Cont.	
Remarks:												
Total Cost			4.908	1.070		3.699		3.959		Cont.	Cont.	

R-1 SHOPPING LIST - Item No. 183

EXHIBIT R-2a, RDT&E	Project Justific	ation		DATE:					
					Februa	ry 2004			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT NUMB	ER AND NAME		PROJECT NUM	MBER AND NAI	ME		
RDT&E, N /BA-7 Operational Sys Development	26623M Marin	e Corps Groun	d Combat/Sup	t Arms	C2928 HIGH M	IOBILITY ARTI	LLERY ROCK	ET SYSTEM	1 (HIMARS)
								Cost to	Total
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program
Project Cost	9.891	6.860	3.026	0.016	0.000	0.000	0.000	0.000	19.793
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

HIMARS is a C-130 aircraft transportable, wheeled, indirect fire, rocket/missile system capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System Family of Munitions (MFOM). The system includes two Resupply Vehicles (w/ Materials Handling Equipment (MHE) Crane) and two Resupply Trailers, and the MFOM. HIMARS will provide the Fleet Marine Force with 24 hour ground-based, responsive General Support/General Support Reinforcing/Reinforcing (GS/GSR/R) indirect fires which accurately engage targets at long range (45+km) with high volumes of lethal fire under all weather conditions throughout all phases of combat operations ashore. HIMARS is a significant improvement over currently fielded ground fire support systems. During a 24 hour period the system will be expected to conduct multiple moves and multiple fire missions. HIMARS will satisfy the Marine Corps requirement for an indirect fire system that is responsive, maneuverable, and is capable of engaging targets at long range.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	3.251	1.853	0.546
RDT&E Articles Qty			

Primary and Ancillary Hardware Development and Systems Engineering Support, includes Navy, Marine Corps, Army and contractor R&D efforts.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	1.451	1.782	0.175		
RDT&E Articles Qty					

Develop Support Equipment, Army program office support, contractor provided logistics support

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	2.195	1.119	1.333
RDT&E Articles Qty			

Support Test and Evaluation Program with Army. Support Test and Evaluation Program for Marine Corps Principle End Items.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005		
Accomplishment/Effort Subtotal Cost	2.994	2.106	0.972		
RDT&E Articles Qty					

Program Management at Quantico, USMC Liason Office at Army Progam, USMC Test Unit at Ft Sill, and contractor support.

(U) Total \$ 9.891 6.860 3.026

Exhibit R-2a, RDTE,N Project Justification

EXHIBIT R-2a, RDT&E	Project Justification	on	DA	ATE:						
					February :	2004				
APPROPRIATION/BUDGET ACTIVITY	AND NAME		PROJECT NUMB							
RDT&E, N /BA-7 Operational Sys Development	26623M Marine C	orps Ground C	Combat/Supt A	rms	C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (H					
PROJECT CHANGE SUMMARY										
	FY2003	FY2004	FY2005							
(U) FY 2004 President's Budget:	11.624	6.943	3.038							
(U) Adjustments from the President's Budget:										
(U) Congressional Program Reductions										
(U) Congressional Rescissions										
(U) Congressional Increases										
(U) Reprogrammings	-1.044									
(U) SBIR/STTR Transfer										
(U) Minor Affordability Adjustment	-0.689	-0.083	-0.012							
(U) FY 2005 President's Budget:	9.891	6.860	3.026							
CHANGE SUMMARY EXPLANATION:										
(U) Funding: See Above.										
(U) Schedule: Not Applicable.										
(U) Technical: Not Applicable.										
(I) 0 0 0 1 1 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0										
(U) C. OTHER PROGRAM FUNDING SUMMAR		EV 2004	EV 2005	EV 000	EV 2007	EV 2002	EV 2022	T- 0	Tatal Ca	
Line Item No. & Name	FY 2003	FY 2004	<u>FY 2005</u>	FY 2000	FY 2007	<u>FY 2008</u>	FY 2009	To Compl	Total Cos	
(U) PMC, 205001,EIFGSWS (HIMARS)	7.791	17.822	16.340	136.95	3 190.233	0.000	0.000	0.000	369.13	

(U) Related RDT&E: Not Applicable.

(U) PMC, 304001, HIMARS ROCKETS

(U) D. ACQUISITION STRATEGY:

USMC HIMARS is procuring the Army rocket launcher, the current / future MFOM and developing an Medium Tactical Vehicle Replacement (MTVR)-based Resupply System (truck(s) with associated trailer(s)). USMC Launcher and ammo requirements closely match U.S. Army requirements. The US Army HIMARS program received increased funding so that it is now an ACAT IC level program. USMC Resupply System requirements are unique. Accordingly, the USMC is an integrator and must ensure the required warfighting capability is fielded to the USMC operating forces. The USMC has aligned funds to reflect an emphasis on not only hardware development, but also the integration of these principle end items while providing associated evaluation and oversight. Additionally, the USMC is establishing the training and support methodologies that will result in associated skill sets required within the Marine Corps.

1.325

32.731

54.967

69.381

0.000

0.000

54.640

CONT

CONT

EXHIBIT R-2a, RDT&E Project Justification	DATE:
EXHIBIT K-za, KDT&E Project Justification	February 2004
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Development 26623M Marine Corps Ground Combat/Su	upt Arms C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)
(U) E. MAJOR PERFORMERS:	
FY-03-Lockheed Martin Missile, Dallas, TX. Modifications to Launcher May 03	
FY-03- Lockheed Martin Missile, Dallas, TX Systems Engineering Support for Developme	nent and testing Jan 03
FY-03-Lockheed Martin Missile, Dallas, TX Develop and provide Launcher training, Contri	tract Award Dec 02
FY-03-Lockheed Martin Missile, Dallas, TX Contractor Logisitics Support, Contract Option	on Jun 03
FY-03-Oshkosh Truck Corporation (OTC), Oshkosh, WI Re-Supply System (RSS) Develop	ppment, Testing and Support Oct 02
FY-03-OTC, Oshkosh, WI Modifications to RSS Jun 03	
FY-04-Lockheed Martin Missile, Dallas, TX. Modifications to Launcher Apr 04	
FY-04- Lockheed Martin Missile, Dallas, TX Systems Engineering Support for Developme	nent and testing OCT 03
FY-04-Lockheed Martin Missile, Dallas, TX Develop and provide Launcher training, Contr	tract Award Oct 03
FY-04-Lockheed Martin Missile, Dallas, TX Contractor Logisitics Support, Contract Option	on Jun 04
FY-04-OTC, Oshkosh, WI Upgrade to RSS Production Representative articles with Field S	

					DATE:								
Exhibit R-3 Cost Analysis					February 2004								
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT						PROJEC	T NUMBE	R AND NA	AME				
0206623M Marine Corps Ground													
RDT&E, N /BA-7 Operational Sys Development Combat/Supt Arms				C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)									
Cost Categories	Contract	Performing	-	Total		FY 03		FY 04		FY 05			Target
-	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Primary Hardware Dev	SS/CPAF	Lockheed M	lartin, Dallas, TX	10.003	1.051	05/03	0.400	04/04			0.000	11.454	11.454
Primary Hardware Dev	FFP	TACOM, Wa	arren, MI	0.000	0.100						0.000	0.100	0.100
Ancillary Hardware Dev	SS/CPAF	Lockheed M	lartin, Dallas, TX	0.300	0.362	06/03					0.000	0.662	0.662
Primary Hardware Dev	SS/CPAF	Oshkosh Tr	uck Corp, Oshkosh,WI	2.054	0.810	10/02	0.600	01/03			0.000	3.464	3.464
Systems Engineering	WR	NSWC-Card	derock,MD	0.028	0.062	10/02	0.030	10/03			0.000	0.120	0.120
Systems Engineering	WR	NSWC-Dah	Igren, VA	0.311	0.271	10/02	0.503	10/03	0.146	10/04	0.016	1.247	1.247
Systems Engineering	WR	NSWC-Earl	e, NJ		0.250	03/03	0.150	10/03			0.000	0.400	0.400
Systems Engineering	FFP	John J. McN	/lullen Assocs,Pittsb.,PA	0.129	0.037	04/03					0.000	0.166	0.166
Systems Engineering	CPAF	Lockheed Martin, Dallas, TX			0.270	01/03	0.080	04/03	0.400	10/04	0.000	0.750	0.750
Systems Engineering	WR	SPAWAR, Charleston, SC									0.000	0.000	0.000
Systems Engineering	FFP	NAVSEA, Wash., DC										0.000	0.000
Systems Engineering	MIPR	TARDEC, Detroit, MI			0.038	10/02					0.000	0.038	0.038
Systems Engineering	WR	NAVAIR, Po	oint McGu, CA				0.090	10/03				0.090	0.090
Subtotal Product Dev				12.825	3.251	1.853		0.546		0.016	18.491		
Remarks:													
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			Target
G	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to		Value of
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Dev Support Equip	WR	MARCORS'	YSCOM,Quantico, VA	0.699	0.138	10/02	0.100	10/03			0.000	0.937	0.937
Dev Support Equip	WR	MCCDC, Qu	uantico, VA	0.945							0.000	0.945	0.945
Dev Support Equip	WR	NSWC_Car			0.104	10/02					0.000		
Program Support	MIPR		SL,Huntsville, AL	0.995		10/02	0.214	10/03			0.000		1.304
Launcher Training	FFP		lartin, Dallas TX	1.261	0.078	12/02	0.163	10/03			0.000		1.502
Integ Logistics Support	FFP		ns, Stafford, VA	0.368		10/02	0.180	10/03	0.175	10/04	0.000		
Integ Logistics Support	CPAF		lartin, Dallas TX	1.606	0.786	06/03	0.991	05/03				3.383	
Integ Logistics Support	WR		se-Albany, GA	0.027			0.034	10/03				0.061	0.061
Integ Logistics Support	FFP		uck Corp, Oshkosh,WI		0.000	10/02	0.100	10/03	1			0.100	0.100
Integ Logistics Support	FFP	SAIC, McLe	an, VA	0.105					1			0.105	
	1			6.006	1.451		1.782		0.175		0.000	0.000 9.414	
Subtotal Support													

R-1 SHOPPING LIST - Item No. 183

Meti & Ty	iys Developme intract Perform thod Activity iype Locatio R NSWC- R KTR Sp R Redsto P AMRDE	ning & n Dahlgren, VA bt TMI, Wash., DC ne Tech Test Ctr,Huntsville,AL	Total PY s Cost 0.216 0.190		C2928 H FY 03 Award Date	T NUMBE IGH MOBI FY 04 Cost	R AND NA	ILLERY R		SYSTEM (H		Target Value of
RDT&E, N /BA-7 Operational Sy Cost Categories Con Meti & Ty Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval FFP Dev Test & Eval FFP Dev Test & Eval WR	iys Developme intract Perform thod Activity iype Locatio R NSWC- R KTR Sp R Redsto P AMRDE	0206623M Marine Corps Combat/Supt Arms ning & n Dahlgren, VA ot TMI, Wash., DC ne Tech Test Ctr,Huntsville,AL	Total PY s Cost 0.216 0.190	Cost 0.900	C2928 H FY 03 Award Date	IGH MOBI	LITY ART	ILLERY R	FY 05	•		
Cost Categories Con Meth & Ty Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval WR	ntract Perform thod Activity ype Locatio R NSWC- KTR Sp R Redsto P AMRDE	nt Combat/Supt Arms ing & n Dahlgren, VA pt TMI, Wash., DC ne Tech Test Ctr,Huntsville,AL	Total PY s Cost 0.216 0.190	Cost 0.900	FY 03 Award Date	FY 04	FY 04		FY 05	•		
Cost Categories Con Metl & Ty Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval WR	ntract Perform thod Activity ype Locatio R NSWC- KTR Sp R Redsto P AMRDE	hing & n Dahlgren, VA bt TMI, Wash., DC ne Tech Test Ctr,Huntsville,AL	PY s Cost 0.216 0.190	Cost 0.900	FY 03 Award Date	FY 04	FY 04		FY 05	•		
Meti & Ty	thod Activity Type Locatio R NSWC- P KTR Sp R Redsto P AMRDE	& n Dahlgren, VA ot TMI, Wash., DC ne Tech Test Ctr,Huntsville,AL	PY s Cost 0.216 0.190	Cost 0.900	Award Date					Cost to		
& Ty Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval WR	NSWC-P KTR Sp R Redsto R AMRDE	n Dahlgren, VA ot TMI, Wash., DC ne Tech Test Ctr,Huntsville,AL	Cost 0.216 0.190	Cost 0.900	Date		Award	FY 05	Award	Cost to	Total	Value of
Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval WR	R NSWC- P KTR Sp R Redsto P AMRDE	Dahlgren, VA ot TMI, Wash., DC ne Tech Test Ctr,Huntsville,AL	0.216 0.190	0.900		Coot					i Otai	value oi
Dev Test & Eval FFP Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval WR	R Redsto	ot TMI, Wash., DC ne Tech Test Ctr,Huntsville,AL	0.190			Cost	Date	Cost	Date	Complete	Cost	Contract
Dev Test & Eval WR Dev Test & Eval FFP Dev Test & Eval WR	R Redsto	ne Tech Test Ctr,Huntsville,AL			10/02					0.000	1.116	1.116
Dev Test & Eval FFP Dev Test & Eval WR	P AMRDE									0.000	0.190	0.190
Dev Test & Eval WR			0.043	0.170	10/02	0.080	10/03	0.100	10/04	0.000	0.393	0.393
	Logistic	EC, Huntsville, VA	0.546							0.000	0.546	0.546
	Logistic	s Base, Albany, GA	0.162								0.162	0.162
Dev Test & Eval MIP	PR TACON	1, Detroit, MI	0.085								0.085	0.085
Dev Test & Eval WR	R Aberde	en Proving Grd,Aberdeen,MD	0.063	0.790	10/02	0.400	10/03	0.100	10/04	0.000	1.353	1.353
Dev Test & Eval WR	R NSWC-	Carderock, MD		0.015	10/02	0.045	10/03			0.000	0.060	0.060
Dev Test & Eval FFP	NATC,	Silver Springs,NV		0.070	03/03					0.000	0.070	0.070
Dev Test & Eval MIP	PR DAC, M	IcAlester, OK				0.142	12/03			0.000	0.142	0.142
Operational Test & Eval WR	R MCOTE	A, Quantico, VA	0.136	0.180	10/02	0.402	10/03	0.550	10/04	0.000	1.268	1.268
Operational Test & Eval MIP	PR MARFO	ORRES, New Orleans, LA	0.026	0.070	10/02	0.050	10/03	0.250	10/04	0.000	0.396	0.396
Operational Test & Eval WR	R OT Tes	t Conduct, Ft. Sill, OK						0.333	10/04	0.000	0.333	0.333
Subtotal T&E			1.467	2.195		1.119		1.333		0.000	6.114	
Remarks:												
Cost Categories Con	ntract Perform	ning	Total		FY 03		FY 04		FY 05			Target
Meti	thod Activity	&	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
& T _\	ype Locatio	n	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Program Mngmnt WR	MCSC,	Quantico, VA	0.801	0.193	10/02	0.075	10/03				1.069	1.069
Program Mngmnt MIP		MY Huntsville, AL	0.166	0.876	10/02	0.648	10/03	0.300	10/04	0.000	1.990	1.990
Program Mngmnt MIP	PR TRNG	Jnit, Fort Sill, OK	0.050	0.179	10/02	0.163	10/03				0.392	0.392
Program Mngmnt FFP	BAE Sy	stems, Stafford, VA	1.127	1.200	10/02						2.327	2.327
Program Mngmnt FFP			0.024	0.044		0.020	11/03				0.088	0.088
Program Mngmnt FFP		McLean,VA		0.120	11/02						0.120	0.120
Program Mngmnt BPA	A CEOSS	3		0.382	05/03	1.200	11/03	0.672	11/04		2.254	2.254
Subtotal Management			2.168	2.994		2.106		0.972		0.000	8.240	
Remarks:	·											
Total Cost				9.891		6.860		3.026		0.016	19.793	

		DATE:
Exhib	it R-4/4a Schedule Profile/Detail	February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supt Arms	C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)

Fiscal Year		-	Y02	2			FYO	3			F١	7 04				FYO!	5			F	Y06			ı	Y0	7			F	Y08			F١	Y09	
Quarter	1	П	Ш	Ľ	/	1 11	П	1 1	V	ı	П	Ш	IV	I	П	Ш		V	ı	П	Ш	IV	I	П	Ш	l I	V	ı	П	Ш	IV	ı	П	Ш	IV
MS A																																			
Mat Launcher Delivery				•																															
MS B IPR						4	•																												
US Army/USMC DT	-				+							-																							
USMC OA				•	#					_	•																								
MS C/LRIP Decision					t				•																										
RSV/RST System Demo							•																												
LRIP GMLRS Decision										•																									
LRIP GMLRS										•										→															
LRIP Launcher Delivery													•																						
USMC OT													+	•																					
Interim Capability																_							-		•										
FRP																			•																-
IOC																									•										
FOC																														•					

Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(U) RDT&E,N, 026623M, HIMARS (U) PMC, 205001, Expeditionary Indirect Fire Ground Support Weapons System (EIFGSWS) (HIMARS)	9.891 7.791	6.860 17.822	3.026 16.340	0.016 136.953	0.000 190.233	0.000 0.000	0.000 0.000	0.000 0.000	19.793 369.139
(U) PMC, 304001, HIMARS ROCKETS	0.000	0.000	1.325	32.731	54.967	69.381	54.640	CONT	213.044

R-1 SHOPPING LIST - Item No. 183

				DATE:			
Exhibit R-4/4a Schedule Profile/Detail PPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT					NIIIMRED	AND NAME	Febr
DT&E, N /BA-7 Operational Sys Dev 0206623M Marine Corps Ground Co	ombat/Supt	Arms					- ERY ROCI
HIMARS SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Maturation Launcher Delivery							
Milestone B IPR	2Q						
US Army/ USMC Developmental Testing		3Q					
USMC Operational Assesment		2Q					
Milestone C/ Low Rate Initial Production Decision	4Q						
US Army/USMC Developmental Testing	2Q						
Resupply Vehicle/Resupply Trailer System Demonstration	2Q						
LRIP GMLRS		1Q		4Q			
LRIP Launcher Delivery		3Q					
USMC Operational Testing		4Q	1Q				
Interim Capability			2Q		3Q		
Full Rate Production Decision				1Q			
Initial Operational Capability					3Q		
Full Operational Capability						3Q	

EXHIBIT	ΓR-2a, RDT&E Projec	t Justificatio	n	-		DATE:		-	_	
							Februa	ry 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT NU	MBER AND N	AME	PROJECT NU	JMBER AND I	NAME			
	0206623M M	larine Corps	Ground							
RDT&E, N /BA-7 Operational Sys Dev	Combat/Sup	porting Arms	Systems	C3098 Fire S	Fire Support Systems					
								Cost to	Total	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program	
Project Cost	0.000	11.099	12,201	10.199	14.008	14.134	9.077	Cont	Cont	
1 10,000 0000	0.000	111000	12.201	10.100	14.000	14.104	0.011	Joint	Com	
RDT&E Articles Qty										

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) This Project develops joint and Marine Corps unique improvements to artillery technology, USMC unique Amphibious Armor Systems (AAS), and international weapons developments. The AN/GVS-5 Laser Range Finder, Family of Artillery Munitions, Fire Support Mods, and the Mortar Ballistic Computer moved to this project from project C1901 within this Program Element.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.276	0.277
RDT&E Articles Qty			

Family of Artillery Munitions (FAM): Support a production decision for the Multi Option Fuze Artillery (MOFA), and Portable Inductive Artillery Fuze Setter (PIAFS) to include: Weapons Systems Explosive Safety Review Board testing, program support, and travel. Actively monitor U.S. Army artillery ammunition development programs in order to leverage off of and influence Army developmental efforts. Funding for this program in FY02 (\$266K) and FY03 (\$261K) was provided under Project C1901 within this PE.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	1.144	1.756
RDT&E Articles Qty			

Fire Support Mods: Joint participation in artillery and fire support improvement projects. Specific projects include phase-in/phase-out of M198 Howitzer / LW 155mm Howitzer and development of Global Positioning System-Selective Availability Anti-Spoofing Module (GPS-SAASM) capability and upgrade of MET processing computer for the Meteorological Measuring System (MMS) and develop Electronic Meteorological Theodolite (EMT) capability . Funding for this program in FY02 (\$1.065M) and FY03 (\$2.634M) was provided under Project C1901 within this PE.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.731	1.130
RDT&E Articles Qty			

Fire Support Mods - Fielded Sys Readiness: Research operational and logistical deficiencies on fielded systems and equipment, such as M198 Howitzers, Position and Azimuth Determining Systems (PADS), and Modular Universal Laser Equipment (MULE) Laser Designators. Develop and field modifications to improve system safety, enhance operational efficiency, and reduce life cycle costs.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	1.673	1.187
RDT&E Articles Qty			

Mortar Ballistic Computer (MBC): Integration effort of Government-Furnished Equipment (GFE) software with CHS hardware platform. Prepare for and conduct combined Developmental Testing (DT) and Operational Testing to include Live Fire User Evaluation. Conduct Interim Progress Review (IPR). Prepare for Milestone C decision. Requirements review to determine evolution to future block upgrades. Funding for this program in FY03 (\$1.845M) was provided under Project C1901 within this PE.

Exhibit R-2a, RDTE,N Project Justification

(Exhibit R-2a, page 41 of 58)

		UNCLASSIFIE	D		
EXHIBIT	ΓR-2a, RDT&E Project J	ustification		DATE:	
				Febr	uary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELE	MENT NUMBER AND NAM	ME PROJECT	NUMBER AND NAME	
	0206623M Mari	ne Corps Ground			
RDT&E, N /BA-7 Operational Sys Dev	Combat/Suppor	rting Arms Systems	C3098 Fire	e Support Systems	
COST (\$ in Millions)	·	FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000	0.944	0.000	
RDT&E Articles Qty					
AN/GVS-5 Replacement (AEROS): Engineer	ng and programmatic suppo	rt as well as performing an O	perational Test and Evalu	ation (OT&E) on the AEROS	system. The funding for the
OT&E effort encompasses the test itself and all	associated personnel and TA	D costs to support the test. I	Funding for this program i	in FY02 (\$823K) and FY03 (\$	1.638M) was provided under
Project C1901 within this PE. Additionally, into	gration of a P3I Enhanced 7	Target Acquisition and Locati	on System (ETALS) will	begin.	
OOOT (A : NA:II:)		E)/ 0000	F)/ 000 /	F)/ 0005	\neg
COST (\$ in Millions)		FY 2003 0.000	FY 2004 0.000	FY 2005 0.360	_
Accomplishment/Effort Subtotal Cost RDT&E Articles Qty		0.000	0.000	0.360	_
,		11 11 11 11	C 1 1 1 1	(POI) and AED	
AN/GVS-5 Replacement (AEROS): Engineer					
P3I effort will be the integration of ETALS in the				through the Office of Naval R	lesearch (ONR). The research
and development effort is being performed by the	e Naval Surtace Wartare Ce	enter (NSWC), Dahlgren, Virg	ginia.		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	\neg
Accomplishment/Effort Subtotal Cost		0.000	3.554	0.000	
RDT&E Articles Qty		5.555		0.000	
Expeditionary Fire Support System (EFSS):	Conduct Analysis of Alterna	atives (AOA) and related cond	cept studies necessary to i	dentify potential EESS solution	ons that meet the capability of
the Mission Need Statement (MNS). Evaluate the					
technologies.	no community of potential so		ogram is planted for a m	or prince acquisition cuses of	
toomio10g1esi					
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000	0.000	7.213	
RDT&E Articles Qty					
Expeditionary Fire Support System (EFSS) -	Short Term (ST) and Long	Term (LT): Conduct comp	arative assessments of cor	mpeting designs and conduct s	system design review to finalize
system performance specification. Evaluate Con	nmercial Off the Shelf (CO?	TS)/Government Off the Shel	f (GOTS) system/compon	ents for consideration to meet	Milestone C and subsequent
IOC.					
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000	2.777	0.278	
RDT&E Articles Qty					
Improved Position Azimuth Determination Sy	stem (IPADS): Program st	ipport, contractor design effor	rt, and the procurement of	systems for developmental/op	perational testing and system
integration. Development effort in support of the	e Milestone C decision.				
(U) Total \$ 0.000		0.000	11.099	12.201	

EXHIBIT R-2a	, RDT&E Project	Justification				ATE:			
A DDD ODDIATION/DUD OFT, A OTDI/ITV			255 4115 144	<u> </u>		4DED 4ND N	Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELI			/IE I	PROJECT NUI	MBEK AND N	AME		
DDT9F N /DA 7 Onevetional Cure Day	0206623M Ma	-			22000 Fire C.				
RDT&E, N /BA-7 Operational Sys Dev	Combat/Suppo		•		C3098 Fire Su	pport Systen	ns		
(U) PROJECT CHANGE SUMMARY: (U) FY 2004 President's Budget:	FY 2003 0.000	FY 2004 11.224	FY 2005 15.828						
(U) Adjustments from the President's Budget:	0.000	11.224	15.828						
(U) Congressional Program Reductions									
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings			-3.578						
(U) SBIR/STTR Transfer									
(U) Minor Affordability Adjustment		-0.125	-0.049						
(U) FY 2005 President's Budget:	0.000	11.099	12.201						
CHANGE SUMMARY EXPLANATION:									
(U) Funding: See above.									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cos
PMC BLI#493000 Night Vision Eq (AEROS)	0.000	0.000	4.960	19.957	25.584	0.360	0.000	0.000	50.86
PMC BLI# 473300 Fire Supp Sys (IPADS)	0.000	0.000	6.647	0.308	0.000	0.000	0.000	0.000	6.95
PMC BLI# 473300 FSS (Mortar Ballistic Computer)	0.000	0.000	3.568	1.885	0.000	0.000	0.000	0.000	5.45
PMC BLI# 206400 Expeditionary Fire Support Sys	0.000	0.000	0.000	2.710	6.346	6.361	0.000	0.000	15.41
PMC BLI# 220900 Mod Kits IWS (Fire Supp Mod Line)	0.929	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.929
PMC BLI# 206300 Mod Kits AFS (Fire Supp Mod Line)	0.000	2.073	2.465	2.596	4.236	4.344	4.459	Continuing	Continuin
PMC BLI#646800 First Dest Transp (AEROS)	0.000	0.000	0.026	0.033	0.034	0.018	0.000	0.000	0.11
PMC BLI# 220900 Mod Kits IWS (Theodolites)	0.952	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.95
PMC BLI# 206300 Mod Kits AFS (PIAFS)	0.000	0.000	2.403	0.409	0.199	0.000	0.000	0.000	3.01
(U) Related RDT&E:									
(U) D. ACQUISITION STRATEGY: These programs	range from off the	shalf modifica	itions to deval	onmental itor	ne Fire nowo	r enhancemo	nt usad sala	cted upgrada	e from Arm

developmental programs to create a system that more readily meets Marine Corps requirements. Modification covers safety, reliability, and technology up-grades to meet Marine Corps requirements. EFSS will use an evolutionary acquisition approach fielding a near term capability in FY08 while leveraging emerging technologies to mature the technology by FY09 and beyond.

(U) E. MAJOR PERFORMERS:

Exhibit R-2a, RDTE,N Project Justification (Exhibit R-2a, page 43 of 58)

			CITOLA									
		Evhikit D 2 Coot Analysis						DATE:		Sobruces 200	04	
A DDD ODDIATION/DUDGET	ACTIVITY	Exhibit R-3 Cost Analysis	·			DDO IEC	TAILIMDE	R AND NA		ebruary 200	U 4	
APPROPRIATION/BUDGET A	ACTIVITY	PROGRAM ELEMENT				PROJEC	INUMBE	K AND NA	AIVIE			
DDT0F N/DA 7 On and the self-	O D	0206623M Marine Corp		_		00000 F:	0	0	_			
RDT&E, N /BA-7 Operational		Combat/Supporting Arr		5	EV 00	C3098 FI		rt System:			1	T
	Contract	II — — — — — — — — — — — — — — — — — —	Total	EV 00	FY 03	E)/ 0.4	FY 04	E)/ 05	FY 05			Target
0	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Cost Categories	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
PRODUCT DEVELOPMENT		SEE BELOW										
AN/GVS-5 Replacement	RCP	MKI Woodbridge, VA	0.000			0.050	1Q04			Cont.	. Cont.	_
EFSS	RCP	TBD	0.000					1.909		Cont.		_
EFSS	VAR	TBD	0.000					0.776	TBD	Cont		_
Fire Spt Mods	MIPR	USArmy CECOM, Ft Monmouth NJ	0.403	1						0.000		_
Fire Spt Mods	RCP	Smith Industries, Grand Rapids, MI				0.400	1Q04	0.800	1Q05	Cont	. Cont.	
Fire Spt Mods - Fielded Sys												
Readiness	VAR	TBD				0.200	TBD	0.367	TBD	Cont.	. Cont.	
IPADS	VAR	VARIOUS				1.674	TBD			Cont	. Cont.	
MBC	VAR	VARIOUS	0.000			0.250		0.200		Cont.	. Cont.	
Subtotal Product Dev			0.403	0.00	00	2.574	,	4.052		Cont	. Cont.	
Remarks:				1							•	
	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Cost Categories	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
PROGRAM SUPPORT	7.	SEE BELOW								Cont	. Cont.	
AN/GVS-5 Replacement	WR	MCSC, Quantico, VA	0.000			0.244	2Q04			Cont.		
AN/GVS-5 Replacement	RCP	CEOSS	0.000			0.450		0.360	1Q05	Cont.		
AN/GVS-5 Replacement	MIPR	Marine Det, Ft Sill, OK	11111			0.015				Cont		
EFSS	RCP	TBD	0.000			1.554		0.777	TBD	Cont.		
EFSS	VAR	TBD						0.900		Cont	_	
Fam Artillery Munitions	WR/RCP	BAEST, Stafford, VA				0.054	1Q04	0.060	1Q05	Cont	. Cont.	
Fire Spt Mods	WR/RCP	BAEST, Stafford, VA	1.046	:		0.400	1Q04	0.400	1Q05	Cont	. Cont.	
Fire Spt Mods - Fielded Sys												
Readiness	VAR	TBD				0.161	TBD	0.253	TBD	Cont	. Cont.	.]
IPADS	VAR	VARIOUS				0.157	2Q04			Cont	. Cont.	
MBC	VAR	VARIOUS	0.000			0.676	TBD	0.700	TBD	Cont.	. Cont.	
			1									

Remarks:

Subtotal Support

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0.000

3.711

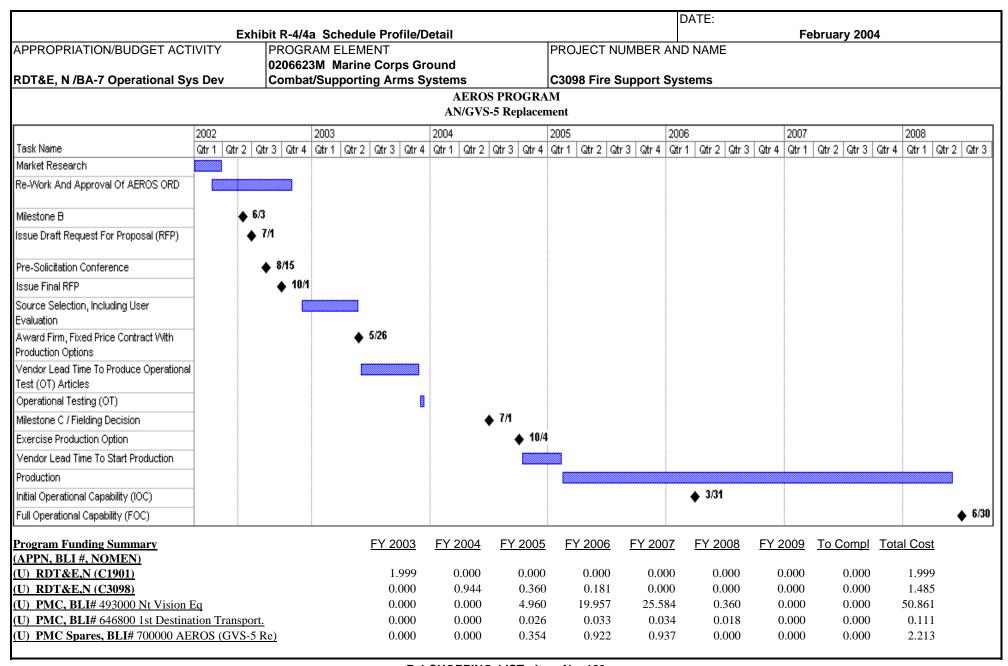
3.450

1.046

Cont.

Cont.

								DATE:				
		Exhibit R-3 Cost Ana	alysis						F	ebruary 200)4	
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM ELEME				PROJEC	T NUMBE	R AND NA				
		0206623M Marine	Corps Ground									
RDT&E, N /BA-7 Operationa	l Sys Dev	Combat/Supportin		5		C3098 Fi	re Suppo	rt Systems	3			
		Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Cost Categories		Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
T&E		SEE BELOW							<u> </u>	Cont.	Cont.	
AN/GVS-5 Replacement	WR	MCOTEA, Quantico, VA	0.000			0.185	2Q04			Cont.	Cont.	
EFSS		TBD						0.951	TBD	Cont.		
Fam Artillery Munitions	WR/RCP	NSWC, Crane, IN				0.222	2Q04	0.217	2Q05	Cont.	Cont.	
Fire Spt Mods		MCOTEA, Quantico, VA	0.025					0.200		Cont.	Cont.	
Fire Spt Mods - Fielded Sys												
Readiness	VAR	TBD				0.170	TBD	0.300	TBD	Cont.	Cont.	
IPADS	WR	VARIOUS				0.151	2Q04			Cont.	Cont.	
MBC		VARIOUS	0.000			0.497	TBD	0.287	TBD	Cont.	Cont.	
Subtotal T&E			0.025	0.000)	1.225		1.955		Cont.	Cont.	
Remarks:												
rtomants.												
Tromano.	Contract	Performing	Total		FY 03		FY 04		FY 05	<u> </u>]	Target
Tremarks.	Contract Method	Performing Activity &	Total PY s	FY 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value of
Cost Categories	Method			FY 03 Cost		FY 04	_	FY 05 Cost		Cost to		Value of
	Method & Type	Activity &	PY s		Award	FY 04	Award		Award			Value of Contract
Cost Categories	Method & Type	Activity & Location	PY s		Award	FY 04	Award Date		Award Date	Complete	Cost	Value of Contract
Cost Categories MANAGEMENT	Method & Type VAR	Activity & Location SEE BELOW	PY s		Award	FY 04 Cost	Award Date	Cost	Award Date	Complete Cont.	Cost Cont.	Value of Contract
Cost Categories MANAGEMENT EFSS	Method & Type VAR	Activity & Location SEE BELOW TBD	PY s		Award	FY 04 Cost	Award Date	0.900	Award Date TBD TBD	Complete Cont. Cont.	Cost Cont. Cont.	Value of Contract
Cost Categories MANAGEMENT EFSS EFSS Fire Supt Mods	Method & Type VAR VAR	Activity & Location SEE BELOW TBD TBD	PY s Cost		Award	FY 04 Cost	Award Date TBD	0.900 1.000	Award Date TBD TBD	Complete Cont. Cont. Cont.	Cost Cont. Cont. Cont.	Value of Contract
Cost Categories MANAGEMENT EFSS EFSS	Method & Type VAR VAR WR	Activity & Location SEE BELOW TBD TBD MCSC, Quantico, VA	PY s Cost		Award	FY 04 Cost	Award Date TBD 2Q04	0.900 1.000	Award Date TBD TBD 2Q05	Complete Cont. Cont. Cont.	Cost Cont. Cont. Cont.	Value of Contract
Cost Categories MANAGEMENT EFSS EFSS Fire Supt Mods Fire Spt Mods - Fielded Sys Readiness	Wethod & Type VAR VAR WR	Activity & Location SEE BELOW TBD TBD	PY s Cost		Award	2.000 0.344	Award Date TBD 2Q04	0.900 1.000 0.356	Award Date TBD TBD 2Q05	Complete Cont. Cont. Cont. Cont.	Cost Cont. Cont. Cont. Cont.	Value of Contract
Cost Categories MANAGEMENT EFSS EFSS Fire Supt Mods Fire Spt Mods - Fielded Sys	Wethod & Type VAR VAR WR	Activity & Location SEE BELOW TBD TBD MCSC, Quantico, VA BAEST, Stafford, VA MCSC, Quantico, VA	PY s Cost	Cost	Award	2.000 0.344	Award Date TBD 2Q04 1Q04 2Q04	0.900 1.000 0.356	Award Date TBD TBD 2Q05	Complete Cont. Cont. Cont. Cont. Cont. Cont.	Cost Cont. Cont. Cont. Cont. Cont.	Value of Contract
Cost Categories MANAGEMENT EFSS EFSS Fire Supt Mods Fire Spt Mods - Fielded Sys Readiness IPADS	Wethod & Type VAR VAR WR RCP	Activity & Location SEE BELOW TBD TBD MCSC, Quantico, VA BAEST, Stafford, VA	PY s Cost	Cost	Award	2.000 0.344 0.200 0.795	Award Date TBD 2Q04 1Q04 2Q04	0.900 1.000 0.356	Award Date TBD TBD 2Q05	Complete Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Cost Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Value of Contract
Cost Categories MANAGEMENT EFSS EFSS Fire Supt Mods Fire Spt Mods - Fielded Sys Readiness IPADS	Wethod & Type VAR VAR WR RCP	Activity & Location SEE BELOW TBD TBD MCSC, Quantico, VA BAEST, Stafford, VA MCSC, Quantico, VA	PY s Cost	Cost	Award	2.000 0.344 0.200 0.795	Award Date TBD 2Q04 1Q04 2Q04	0.900 1.000 0.356	Award Date TBD TBD 2Q05	Complete Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Cost Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Value of Contract
Cost Categories MANAGEMENT EFSS EFSS Fire Supt Mods Fire Spt Mods - Fielded Sys Readiness IPADS	Wethod & Type VAR VAR WR RCP	Activity & Location SEE BELOW TBD TBD MCSC, Quantico, VA BAEST, Stafford, VA MCSC, Quantico, VA	PY s Cost	Cost	Award Date	2.000 0.344 0.200 0.795	Award Date TBD 2Q04 1Q04 2Q04 TBD	0.900 1.000 0.356	Award Date TBD TBD 2Q05 1Q05 2Q05	Complete Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Cost Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Value of Contract
Cost Categories MANAGEMENT EFSS EFSS Fire Supt Mods Fire Spt Mods - Fielded Sys Readiness IPADS MBC	Wethod & Type VAR VAR WR RCP	Activity & Location SEE BELOW TBD TBD MCSC, Quantico, VA BAEST, Stafford, VA MCSC, Quantico, VA	0.582	Cost	Award Date	2.000 0.344 0.200 0.795 0.250	Award Date TBD 2Q04 1Q04 2Q04 TBD	0.900 1.000 0.356 0.210 0.278	Award Date TBD TBD 2Q05 1Q05 2Q05	Complete Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Cost Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Value of Contract
Cost Categories MANAGEMENT EFSS EFSS Fire Supt Mods Fire Spt Mods - Fielded Sys Readiness IPADS MBC Subtotal Management	Wethod & Type VAR VAR WR RCP	Activity & Location SEE BELOW TBD TBD MCSC, Quantico, VA BAEST, Stafford, VA MCSC, Quantico, VA	0.582	Cost	Award Date	2.000 0.344 0.200 0.795 0.250	Award Date TBD 2Q04 1Q04 2Q04 TBD	0.900 1.000 0.356 0.210 0.278	Award Date TBD TBD 2Q05 1Q05 2Q05	Complete Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Cost Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Value of Contract
Cost Categories MANAGEMENT EFSS EFSS Fire Supt Mods Fire Spt Mods - Fielded Sys Readiness IPADS MBC Subtotal Management	Wethod & Type VAR VAR WR RCP	Activity & Location SEE BELOW TBD TBD MCSC, Quantico, VA BAEST, Stafford, VA MCSC, Quantico, VA	0.582	0.000	Award Date	2.000 0.344 0.200 0.795 0.250	Award Date TBD 2Q04 1Q04 2Q04 TBD	0.900 1.000 0.356 0.210 0.278	Award Date TBD TBD 2Q05 1Q05 2Q05	Complete Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Cost Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont. Cont.	Value of Contract

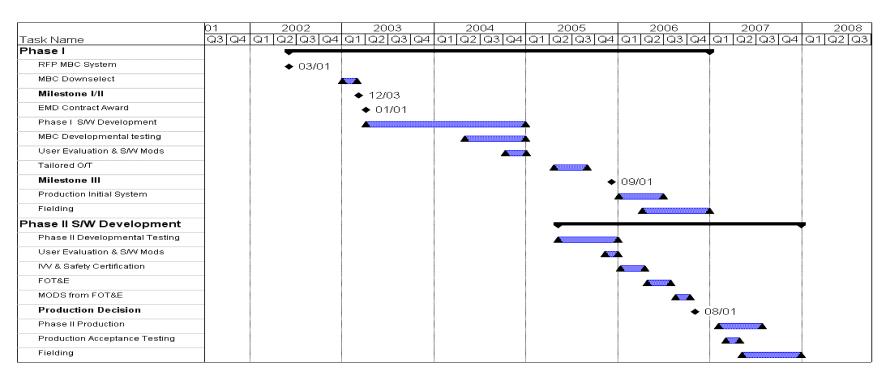


R-1 SHOPPING LIST - Item No. 183

Ex	hibit R-4/4a Sched	dule Profile	/Detail				DATE:	Fel	bruary 2004
ON/BUDGET ACTIVITY	PROGRAM ELE	MENT			PROJECT	NUMBER AN	ND NAME		•
7 Operational Sys Dev	0206623M Mar Combat/Suppo				C3098 Fire	Support Sy	stems		
AEROS SCHEDULE D	DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Market Research									
Re-Work and Approval of A	AEROS ORD								
Milestone B									
Issue Draft Request for Pro	oposal (RFP)								
Pre-Solicitation Conference	е								
Issue Final RFP		1Q							
Source Selection, Including	g User Evaluation	3Q							
Award Firm Fixed Price Co Production Options		4Q							
Vendor Lead Time to Prod Test (OT) Articles	uce Operational	4Q							
Operational Testing (OT)			2Q						
Milestone C / Fielding Deci	ision		3Q						
Exercise Production Option	n			1Q					
Vendor Lead Time to Start	Production			1Q					
Production				1Q					
Initial Operational Capabilit	ty (IOC)				4Q				
Full Operational Capability	(FOC)						3Q		

DATE: Exhibit R-4/4a Schedule Profile/Detail February 2004 PROGRAM ELEMENT PROJECT NUMBER AND NAME APPROPRIATION/BUDGET ACTIVITY 0206623M Marine Corps Ground RDT&E, N /BA-7 Operational Sys Dev Combat/Supporting Arms Systems C3098 Fire Support Systems

MORTAR BALLISTIC COMPUTER



Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(APPN, BLI #, NOMEN) (U) RDT&E,N (C1901)	1.797	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.797
(U) RDT&E,N (C3098)	0.000	1.673	1.187	0.713	0.308	0.000	0.000	0.000	3.881
(U) PMC BLI# 473300 Fire Support Systems	0.000	0.000	3.568	1.885	0.000	0.000	0.000	0.000	5.453

	Ex	hibit R-4/4a Sch	nedule Profile	/Detail				DATE:	Febr	uary 2004
	/BUDGET ACTIVITY Operational Sys Dev	PROGRAM E 0206623M M Combat/Sup	LEMENT arine Corps (Ground		PROJECT N				
	MBC SCHEDULE DET		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
-	Phase I									
ļ	RFP Mortar Ballistic Comp (MBC)System	uter								
	MBC Down Select									
l l	Milestone I/II		1Q							
Ļ	EMD Contract Award		1Q							
Ļ	Phase I Software (SW) De	velopment	1Q							
<u> </u>	MBC Developmental Testi	ng		2Q						
Ļ	User Evaluation & SW Mod	ds		3Q						
Ļ	Tailored Operational Testir	ng (OT)		3Q						
<u> </u>	Milestone III				1Q					
	Production Initial System				1Q					
	Fielding				3Q					
-	Phase II - SW Developme	un4			1Q					
I -	Phase II Developmental Te				1Q 1Q					
l T	User Evaluation & SW Mod				4Q					
I -	IW & Safety Certification	<u> </u>			73	1Q				
T	FOT&E					2Q				
l-	Mods from FOT&E					3Q				
	Production Decision					4Q				
Ī	Phase II Production						1Q			
	Production Acceptance Te	sting					1Q			
	Fielding						2Q			

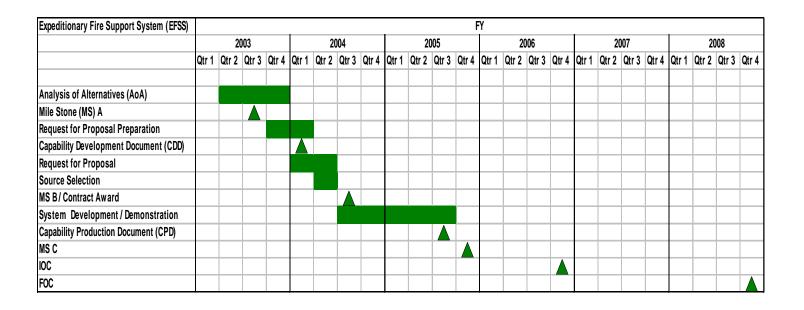
	Evh	nibit R-4/4a Schedule Prof	ile/Detail			D/	ATE:	Fa	ebruary 200	м		
	PRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT 0206623M Marine Corps	s Ground		PROJECT NUMBER AND NAME							
DT&E,	N /BA-7 Operational Sys Dev	Combat/Supporting Arm	ns Systems POSITIONING			Support System	ems					
							T	0000		0007		
ID	Task Name	2003 Qtr 2 Qtr 3 Qtr 4	200- Qtr 1 Qtr 2			005 Qtr 3 Qtr 4	Qtr 1	2006 Qtr 2 Qtr 3	Qtr 4 Qtr	2007 1 Qtr 2 Qtr 3	3 Qtr 4	
1	Prepare Contract Documentation					4 0 4	<u> </u>		4	.	<u> </u>	
2	RFP Release											
3	Source Selection											
4	Exercise EMD Contract Option											
5	Dev elopmental Testing											
6	Fleet Ev aluation											
7	Milestone C				10/6							
8	Exercise Contract Production Option											
9	Production											
10	IOC (I MEF)					\triangle						
	Funding Summary BLI #, NOMEN)	FY 200	03 FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost		
J) RDT	7&E,N (C3098)	0.0		0.278	0.011	0.000	0.000		0.000			
	C BLI# 473300 C Spares BLI# 700000 IPADS	0.0 0.0		6.647 0.143	0.308 0.516	0.000 0.000	0.000		0.000			
, i wic	Spares DLIT /VVVVV IF ADS	0.0	0.000	0.143	0.510	0.000	0.000	0.000	0.000	0.039		

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PROPRIATION/BUDGET ACTIVITY DROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting Arms Systems C3098 Fire Support	D206623M Marine Corps Ground Combat/Supporting Arms Systems C3098 Fire Support Systems			chibit R-4/4a Scl		/Detail			DATE:	Fe	ebruary 2004
IPADS SCHEDULE DETAIL FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Prepare Contract Documentation Image: Contract Option or Contra	IPADS SCHEDULE DETAIL FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Prepare Contract Documentation Image: Contract Option or Contra			0206623M N	larine Corps (
RFP Release 1Q Source Selection 3Q Exercise EMD Contract Option ————————————————————————————————————	RFP Release 1Q Source Selection 3Q Exercise EMD Contract Option ————————————————————————————————————	,					FY 2005			FY 2009	
Source Selection 3Q Exercise EMD Contract Option	Source Selection 3Q Exercise EMD Contract Option		Prepare Contract Docume	entation							
Exercise EMD Contract Option 1Q Developmental Testing/OT 1Q Fleet Evaluation 4Q Milestone C 1Q Exercise Contract Production Option 1Q Production 1Q	Exercise EMD Contract Option Developmental Testing/OT Fleet Evaluation Milestone C Exercise Contract Production Option Production 1Q 1Q 1Q 1Q 1Q		RFP Release		1Q						
Developmental Testing/OT 1Q Fleet Evaluation 4Q Milestone C 1Q Exercise Contract Production Option 1Q Production 1Q	Developmental Testing/OT 1Q Fleet Evaluation 4Q Milestone C 1Q Exercise Contract Production Option 1Q Production 1Q		Source Selection		3Q						
Fleet Evaluation 4Q Milestone C 1Q Exercise Contract Production Option 1Q Production 1Q	Fleet Evaluation 4Q		Exercise EMD Contract C	ption							
Milestone C 1Q Exercise Contract Production Option 1Q Production 1Q	Milestone C 1Q Exercise Contract Production Option 1Q Production 1Q		Developmental Testing/O	Т		1Q					
Exercise Contract Production Option Production 1Q	Exercise Contract Production Option Production 1Q		Fleet Evaluation			4Q					
Production 1Q	Production 1Q		Milestone C				1Q				
			Exercise Contract Produc	tion Option							
Initial Operational Capability (I MEF) 3Q	Initial Operational Capability (I MEF) 3Q 3Q		Production				1Q				
			Initial Operational Capabi	lity (I MEF)			3Q				

			DATE:
Exhi	bit R-4/4a Schedule Profile/Detail		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AN	ID NAME
	0206623M Marine Corps Ground		
RDT&E, N /BA-7 Operational Sys Dev	Combat/Supporting Arms Systems	C3098 Fire Support Sy	stems

Expeditionary Fire Support System



Program Funding Summary (APPN, BLI #, NOMEN)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(U) RDT&E,N (C3098)	0.000	0.000	3.554	7.213	6.488	11.221	11.596	6.521	Continuing	Continuing
(U) PMC BLI# 206400 EFSS	0.000	0.000	0.000	0.000	2.710	6.346	6.361	0.000	0.000	15.417

		xhibit R-4/4a Sch		/Detail				DATE:	Fel	oruary 2004
	TION/BUDGET ACTIVITY	PROGRAM EL 0206623M Ma Combat/Supp	arine Corps (Ground		PROJECT I				
KDI&E, N/B	A-7 Operational Sys Dev EFSS SCHEDULE DE		FY 2003	FY 2004	FY 2005	C3098 Fire FY 2006	FY 2007	FY 2008	FY 2009	
	EF33 3CHEDULE DI	<u> </u>	F1 2003	F1 2004	F1 2005	F1 2006	F1 2001	F1 2006	F1 2009	
	Milestone A			1Q						
	Milestone B				1Q					
	Milestone C (Phase 1)					1Q				
	Milestone C (Phase 2)								1Q	
	Initial Operational Capabi	lity (Phase 1)						2Q		
	Full Operational Capability	y (Phase 1)							4Q	

EXHIBIT	ΓR-2a, RDT&E Project	Justification				DATE:			
							Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT NUM	IBER AND NA	ME	PROJECT NU	JMBER AND	NAME		
	0206623M M	arine Corps G	round						
RDT&E, N /BA-7 Operational Sys Dev	Combat/Supp	orting Arms	Systems		C4002 Family	4002 Family of Raid and Reconnaissance Equipme			
								Cost to	Total
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Program
Project Cost	0.000	2.545	3.440	1.225	0.552	0.472	0.486	Cont	Con
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Family of Raid and Reconnaissance Equipment program supports the research, development, and procurement actions for multiple airborne/parachuting and specialized reconnaissance related programs. This line focuses on immediate capability enhancements to numerous insertion and personnel equipment shortfalls currently existing in reconnaissance units throughout the operating forces. This will include improving airborne capability equipment and items for direct action missions that use this specialized raid equipment.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.395	0.360
RDT&E Articles Qty			

Family of Raids and Reconnaissance Equipment: Integrate logistics to standardize and improve existing close quarters battle and direct action combat equipment and all Marine Corps parachute programs. On-going support to existing items that meet mission requirements for close quarter battle and parachute operations. Development of airborne systems that will allow military parachutists to carry combat equipment in various configurations and a means of supplying/re-supplying combat essentials to Marine units. Development on High Altitude High Opening (HAHO) navigation board, improved jumpers helmet, oxygen (O2) console system integrated with V-22 Osprey, and High Altitude Low Opening (HALO)/HAHO jumpers kit. Funding for this program in FY03 is provided under Project C1901 within this PE.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.244	0.249
RDT&E Articles Qty			

Family of Small Craft: Conduct engineering analysis and exploration of enhancements for modifications of the Family of Small Craft programs. The Small Unit Riverine Craft (SURC), Small Unit Riverine Craft Escort (SURC-E), Raid Open Water Safety Craft (ROWSC), Combat Rubber Reconnaissance Craft (CRRC), Non-Gasoline Burning Outboard Engines (NBOE), and other small craft items will be supported in the future as new craft and engines are fielding. Funding for this program in FY03 is provided under Project C1901 within this PE.

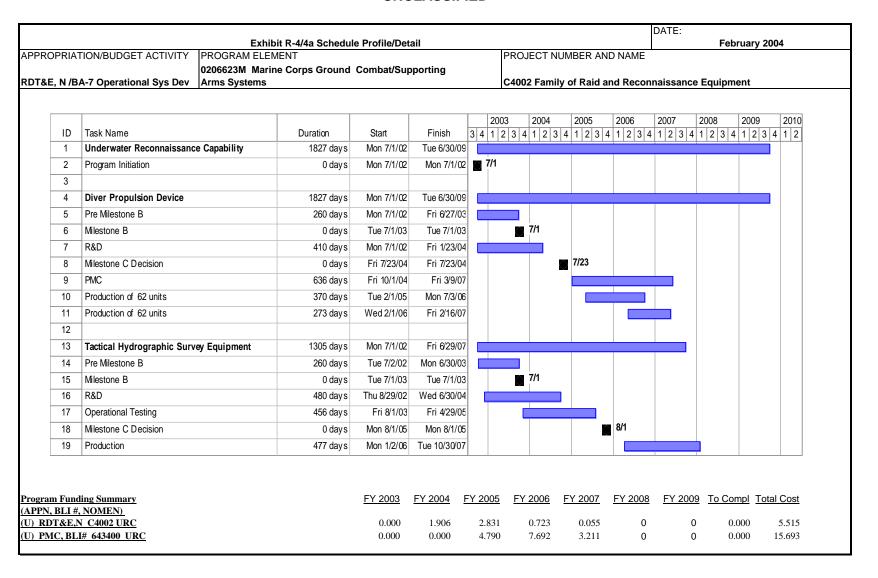
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	1.906	2.831
RDT&E Articles Qty			

Underwater Reconnaissance Capability (URC): Concept exploration and development of prototypes for Divers Propulsion Device (DPD) and for the Tactical Hydrographic Survey Equipment (THSE) in support of underwater reconnaissance operations. Funding for this program in FY03 is provided under Project C1901 within this PE.

(U) Total \$ 0.000 0.000 2.545 3.440

EXHIBIT R-2a	a, RDT&E Project J	ustification				DATE:	Eobrua	ry 2004			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	0206623M Mar	PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat/Supporting Arms Systems				PROJECT NUMBER AND NAME C4002 Family of Raid and Reconnaissance Equipment					
(U) PROJECT CHANGE SUMMARY: (U) FY 2004 President's Budget: (U) Adjustments from the President's Budget: (U) Congressional Program Reductions (U) Congressional Rescissions (U) Congressional Increases (U) Reprogrammings (U) Small Business Innovation Research Transfer (U) Minor Affordability Adjustment (U) FY 2005 President's Budget: CHANGE SUMMARY EXPLANATION: (U) Funding: Not Applicable. (U) Schedule: Not Applicable. (U) Technical: Not Applicable.	<u>FY 2003</u> 0.000	FY 2004 2.574 -0.029 2.545	FY 2005 3.453 -0.013 3.440								
(U) C. OTHER PROGRAM FUNDING SUMMARY: Line Item No. & Name PMC BLI #643400 Amphibious Raid Equipment (U) Related RDT&E: Not Applicable.	FY 2003 18.625	FY 2004 21.247	FY 2005 15.771	FY 2006 16.105	FY 2007 6.658	FY 2008 3.429	FY 2009 3.497	<u>To Compl</u> 0.000	Total Cost 85.332		
(U) D. ACQUISITION STRATEGY: The acquisition strategy consists of market surveys to ider capabilities/specifications and establishment of the trade s conducted.									iired to be		
(U) E. MAJOR PERFORMERS:											
Nov 03, Nov 04 Natick, MA Natick L	Systems Station (Cabs, system engine Development		engineering in s	support of und	derwater recon	nnaissance					

								DATE:	_			
		Exhibit R-3 Cost Analysis							F	ebruary 200)4	
APPROPRIATION/BUDGET AC	TIVITY	PROGRAM ELEMENT			PROJEC	CT NUMBER	r and nai	ΛE				
		0206623M Marine Corps	Ground									
RDT&E, N /BA-7 Operational S	ys Dev	Combat/Supporting Arm	Combat/Supporting Arms Systems C4002 Fa				aid and Re	connaissa	nce Equip	ment		
Cost Categories	Contract	Performing	Total		FY 03	_	FY 04		FY 05			Target
(Tailor to WBS, or Sys/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Hardware development	RCP	MARCORSYSCOM, Quantico, VA				1.103	12/03	1.899	12/04	Cont.	Cont.	
Systems Engineering	WR	CSS, Panama City, FL				0.435	10/03	0.430	10/04	Cont.	Cont.	
Systems Engineering	WR	Natick Labs, Natick, MA				0.407	11/03	0.419	11/04	Cont.	Cont.	
,		,										
Subtotal Product Development			0.000	0.000		1.945		2.748		Cont.	Cont.	
Remarks: Funding for this progr	am in FY03	is provided under Project C1901 within	this PE.			-						
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or System/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Integrated Logistics Support	RCP	BAE Inc, Stafford, VA				0.200	10/03	0.199	10/04	Cont.	Cont.	
y II		,										
Subtotal Support			0.000	0.000		0.200		0.199		Cont.	Cont.	
Remarks: Funding for this progr	am in FY03	is provided under Project C1901 within	this PE.	•			•					
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or System/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Developmental Testing/Eval	WR	NSWC Carderock Div, Bethesda, MD				0.150	12/03	0.150	12/04	Cont.	Cont.	
Operational T&E	WR	MCOTEA, Quantico, VA				0.100	11/03	0.100	12/04	Cont.	Cont.	
Operational TGE	1	WOOTEN, Quantios, VN				0.100	11/00	0.100	12/01	OOTIL.	OOIII.	
Subtotal T&E			0.000	0.000		0.250		0.250		Cont.	Cont.	
	am in FY03	is provided under Project C1901 within								1		
		·										
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
(Tailor to WBS, or System/Item	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Requirements)	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Management	RCP	MARCORSYSCOM, Quantico, VA				0.150	12/03	0.243	12/04	Cont.	Cont.	
Subtotal Management				0.000		0.150		0.243		Cont.	Cont.	
	am in FY03	is provided under Project C1901 within	this PE.	•	•	-	•	•	•	-	•	•
Total Cost			0.000	0.000		2.545		3,440		Cont.	Cont.	
		L	0.000	0.000	1	2.0 10	1	1 0.1.0	1	00	00.11.	



							DATE:			
PPPOPPIATION/PUPOET A OTIVITY	Exhibit R-4/4a Schedule Profile/ PROGRAM ELEMENT	Detail		IDDO IDOT	NUMBER A	NID NIAME		February 2004		
PPROPRIATION/BUDGET ACTIVITY		(C		PROJECT	NUMBER A	ND NAME				
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/ Arms Systems	Supporting		C4002 Fan	nily of Raid	and Recon	nnaissance Equipment			
URC SCHEDULE DETA		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	-	
Diver Propulsion Device										
Milestone B		4Q								
Milestone C			4Q							
Tactical Hydrographic Surve	ey Equipment									
Milestone B		4Q								
ОТ		4Q	1Q-4Q	1Q-3Q						
Milestone C				4Q						

CLASSIFICATION:

EXHIBIT R-2, RDT&E Bud	aet Item Justifi	cation			DATE:							
,,	9				February 2004							
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT (PE) NAME AND NO.										
RDT&E, N /BA-7 Operational Sys Dev		0206624M Marine Corps Combat Services Support										
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program			
Total PE Cost	16.682	20.493	10.731	9.380	6.636	3.528	3.315	Cont	Cont			
C0076 Medium Tactical Vehicle Replacement (MTVR)	0.727	1.313	2.460	0.702	0.000	0.000	0.000	0.000	5.202			
C0201 Logistical Vehicle System Replacement (LVSR)	4.771	8.872	4.767	6.201	4.415	0.397	0.173	0.000	29.596			
C2316 Combat Service Support Engineering Equipment	8.708	7.660	1.984	0.513	0.531	0.543	0.553	0.000	20.492			
C2509 Motor Transport Modernization	2.169	0.439	0.445	0.450	0.551	0.570	0.582	Cont	Cont			
C2929 Testing Measuring Diagnostic Equip (TMDE) & SE	0.307	2.209	1.075	1.514	1.139	2.018	2.007	Cont	Cont			
Quantity of RDT&E Articles												

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program element (PE) provides funding for Marine Air-Ground Task Force requirements for Combat Service Support equipment improvement. It will enhance combat breaching capabilities of the ground combat elements, logistics, maintenance and transportation requirements. It will also determine the reconfiguration of the current Twin Agent Unit firefighting apparatus and provide a portable, highly mobile general-purpose automatic tester designed for use by technicians in the garrison and at the forward edge of the battlefield.

The PE also provides improvements in all areas of Combat Service Support Equipment Vehicles by determining the replacement for the heavy, medium and light fleet vehicles. Alternative Power Sources for Communications Equipment (APSCE) is a suite of devices that provides the commander with the capability to use existing power to operate his communication equipment, computers and peripheral equipment instead of using batteries or fossil fuel generators. The Marine Corps Family of Automatic Test Systems (ATS), formerly TETS, provides automatic testing capability for use by technicians both in garrison and forward edge of Battlefield

CLASSIFICATION:

EXHIBIT R-2, RDT&E B	udget Item Justifica	tion		DATE:					
				February 2004					
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT (PE) NAME AND NO.							
RDT&E, N /BA-7 Operational Sys Dev	0206624M Marine Corps Combat Services Support								
B. PROGRAM CHANGE SUMMARY									
	FY2003	FY2004	FY2005						
(U) FY 2004 President's Budget:	20.516	19.723	10.132						
(U) Adjustments from the President's Budget:									
(U) Congressional/OSD Program Reductions									
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings	-3.411	1.000	0.636						
(U) SBIR/STTR Transfer	-0.413	-0.086	-0.006						
(U) Minor Affordability Adjustment	-0.010	-0.144	-0.031						
(U) FY 2005 President's Budget:	16.682	20.493	10.731						
CHANGE SUMMARY EXPLANATION:									
(U) Funding: See Above.									
(U) Schedule: Not Applicable.									
(U) Technical: Not Applicable.									

UNCLASSIFIED										
EXHIBIT R-2	a, RDT&E Projec	t Justification	l			DATE:	Eobrura	.rv 2004		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev										
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY2008	FY2009	Cost to Complete	Total Program	
Project Cost	0.727	1.313	2.460	0.702	0.000	0.000	0.000	0.000	5.202	
RDT&E Articles Qty		18								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project includes funding for the Medium Tactical Vehicle Replacement (MTVR) Program which will determine the replacement vehicle for the Medium 5-ton fleet. The MTVR Trailer program will replace the aging fleet of trailers with trailers that will match the MTVR's performance over its mission profile. The MTVR trailer will provide improvements in cross-country mobility, cargo capacity and types of cargo transported. The Family of Tactical Trailers (FTT) will develop the High Mobility Trailer (HMT) to support expanding Command Communications Control Computers and Intelligence (C4I) requirements.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.727	0.000	0.000
RDT&E Articles Qty			

MTVR: Variant prototype development and Operational Testing.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.186	0.000
RDT&E Articles Qty			

FTT: Development of tactical trailers.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	1.127	2.460
RDT&E Articles Qty		18	

MTVR TRAILER: Development of the MTVR Trailers and Developmental Testing.

(U) Total \$ 0.727 1.313 2.460

EXHIBIT R-2a, RDT&E Project Justification DATE: Februrary 2004 APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME

0206624M Marine Corps Combat Services Support

FY2003 FY 2004 FY 2005 (U) FY2004 President's Budget 0.967 1.327 1.966

- (U) Adjustments from the FY 2004 President's Budget:
 - (U) Congressional/OSD Program Reductions
 - (U) Congressional Rescissions

RDT&E, N /BA-7 Operational Sys Dev

- (U) Congressional Increases
- (U) Reprogrammings -0.215 0.500 (U) SBIR/STTR Transfer -0.025
- (U) Minor Affordability Adjustment -0.004 -0.006
 (U) FY 2005 President's Budget: 0.727 1.313 2.460

CHANGE SUMMARY EXPLANATION:

- (U) Funding: Changes in FY 03 are due to SBIR reduction of \$25K and Marine Corps realignment of funds for \$215K. Changes in FY04 are due to minor affordability adjustment. Changes in FY05 are due to \$500K Marine Corps realignment of funds and \$6K minor affordability
- (U) Schedule: Not Applicable.(U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(U) PMC Line (BLI# 509700) Fam of Tac Trlrs	0.000	0.000	0.942	2.781	3.332	3.560	3.312	Continuing	Continuing
(U) PMC Line (BLI# 509700) MTVR Trailers	0.000	0.000	0.000	9.779	21.623	26.190	17.812	Continuing	Continuing
(U) PMC Line (BLI# 508800) MTVR	328.313	4.577	0.000	0.000	0.000	0.000	0.000	0.000	332.890

- (U) Related RDT&E: (U) PE 0206623M Marine Corps Ground Combat Supporting Arms Systems
 - (U) PE 0603640M Marine Corps Advanced Technology Demonstration
 - (U) PE 0604804A Logistics and Engineering Equip/Engr Development
 - (U) PE 0206313M Marine Corps Communication Systems

(U) D. ACQUISITION STRATEGY:

MTVR Vehicles: The MTVR production program is a multi-year, fixed price contract with an economic price adjustment. The program has both an Acquisition Strategy and an Acquisition Plan that addresses the total program fielding. The Contractor will deliver 5,666 vehicles on the base contract, with 2,502 vehicles included as options. There are four MTVR configurations, which include standard cargo, extra long wheel base cargo, dump and wrecker. The Acquisition Strategy includes Contractor Logistics Support (CLS) after fielding.

MTVR Trailers: The MTVR trailer program will award a competitive contract to develop and produce the MTVR trailers. It is anticipated that the replacement for the M149 Potable Water Tank Trailer and M105 1 1/2 Ton Cargo Trailer will be new designs, while the M353 3 1/2 Ton General Purpose Trailer will be a remanufacture, maximizing the use of common components across the three platforms. The trailers will be designed for and tested with the MTVR in order to ensure compatibility as a system.

Family of Tactical Trailers: The Family of Tactical Trailers will award a competitive contract to develop and produce the High Mobility Trailers (HMT).

R-1 SHOPPING LIST - Item No. 184

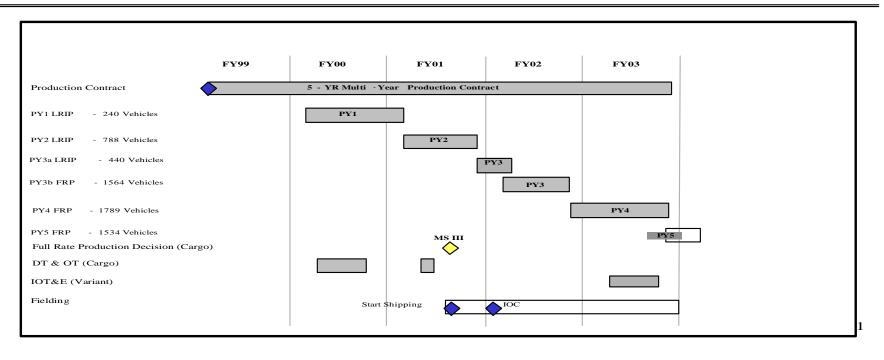
C0076 Medium Tactical Vehicle Replacement (MTVR)

UNCLASSIFIED								
	EXHIBIT R-2	a, RDT&E Project Justification	DATE: Februrary 2004					
	ATION/BUDGET ACTIVITY /BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206624M Marine Corps Combat Services Support	PROJECT NUMBER AND NAME C0076 Medium Tactical Vehicle Replacement (MTVR)					
(U) E. MA	JOR PERFORMERS:							
FY02 - FY03 - FY04 -	Marine Corps Systems Comr	Oshkosh, WI. Develop the MTVR variants (dump/wrecker) and, Quantico, VA. Program Management Support, Oct 01 st activity for the dump/wrecker variants, Dec 02.						

							DATE:					
		Exhibit R-3 Cost Analysis							Febru	ıary 2004		
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM ELEMENT			PROJEC	Г NUMBE	R AND NA	AME				
RDT&E, N /BA 7 Operation	al Sys Dev	0206624M Marine Cor	ps Comb	at Service	C0076 Me	edium Ta	ctical Veh	Replace	ment (MT	VR)		
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
3	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value o
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Product development	RCP	MCSC, Quantico, VA	0.164			0.950	12/03	1.400	12/04	0.123	2.637	2.637
Product development	RCP	NSWC, Carderock, MD	0.355			0.187	12/03		, .	0.000	0.542	0.542
Subtotal Product Dev	1	Total of Caraciton, III	0.519			1.137	, 00	1.400		0.123	3.179	0.0.2
Remarks:	-!		0.010			1.107		1.100	<u> </u>	0.120	0.170	
. tomano.												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
5	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value o
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
	71.											
Subtotal Support												
Remarks:	1	-	l.				l .		1			
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
G	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value o
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Developmental Test & Eval	MIPR	Aberdeen Test Center, MD	0.106							0.000	0.106	0.106
Developmental Test & Eval	RCP	MCSC, Quantico, VA	0.000					0.958	01/05	0.000	0.958	0.958
Operational Test & Eval	RCP	MCSC, Quantico, VA	0.000	0.249	12/02					0.000	0.249	0.249
Developmental Test & Eval	WR/RCP	MCOTEA, Quantico, VA	0.000	0.478	06/03					0.000	0.478	0.478
Operational Test & Eval	WR/RCP	MCOTEA, Quantico, VA	0.000							0.486	0.486	0.486
•												
Subtotal T&E			0.106	0.727				0.958		0.486	2.277	
Remarks:												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value o
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Program Mngmnt	WR	MCSC Quantico, VA	1.159			0.117	12/03	0.102	10/04	0.093	1.471	1.471
Program Mngmnt Suppt	RCP	MCSC Quantico, VA	0.000			0.059	12/03			0.000	0.059	0.059
Subtotal Management			1.159			0.176		0.102		0.093	1.530	
Remarks:												
Total Cost				0.727		1.313		2.460		0.702	5.202	
	1	I.	I.	- -			1		1			1

	February 2004					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME				
RDT&E, N /BA 7 Operational Sys Dev	0206624M Marine Corps Combat Services Spt	C0076 Medium Tactical Veh Replacement (MTVR)				

Medium Tactical Vehicle Replacement Schedule

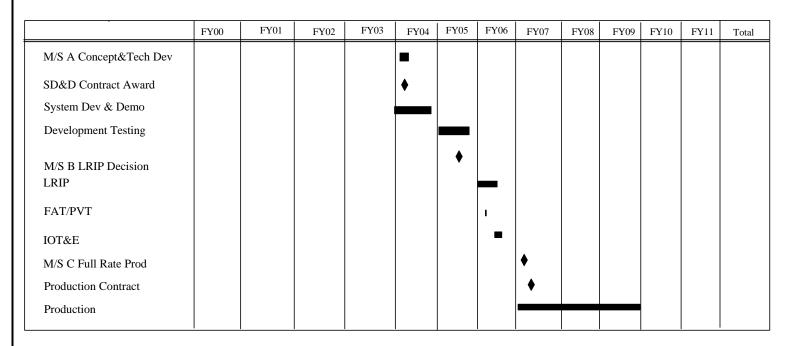


Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(APPN, BLI #, NOMEN) (U) RDT&E,N	0.727	1.313	2.460	0.702	0.000	0.000	0.000	0.000	5.202
(U) PMC, BLI# 508800 MTVR	328.313	4.577	0.000	0.000	0.000	0.000	0.000	0.000	332.890

	PROGRAM ELEMENT 0206624M Marine Corps Con	nbat Servic	es Spt			NUMBER AN		cement (MT	VR)
MTVR SCHEDULE DETA	IL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Y4 Full rate production (FRP)		2Q						
Y5 Full rate production (FRP)		2Q						
OT&E		3Q							

			DATE:	
		February 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME		
RDT&E, N /BA 7 Operational Sys Dev	0206624M Marine Corps Combat Services Spt	C0076 Medium Tactical Veh Replacement (MTVR)		

MTVR Trailer Program Schedule



Program	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(APPN, BLI									
(U) RDT&E,N - MTVR Trailers	0.000	1.140	1.966	0.704	0.000	0.000	0.000	0.000	3.810
(U) RDT&E,N - Family of Tactical Trailers	0.000	0.187	0.000	0.000	0.000	0.000	0.000	0.000	0.187
(U) PMC, BLI# 509700 Fam of Tact Trailers	0.000	0.000	2.445	2.781	3.332	3.560	3.312	Continuing	Continuing
(U) PMC, BLI# 509700 MTVR Trailers	0.000	0.000	0.000	9.810	21.661	26.176	17.762	Continuing	Continuing

A 7 Operational Sys Dev 0206624M Marine Co			1	C0076 Medium Tactical Veh Replacement (MTVR)				
ITVR Trailers SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
I/S A Concept & Tech Dev		1Q						
sys Dev & Demo Contract Award		2Q						
Developmental testing			1Q					
I/S B LRIP Decision				1Q				
AT/PVT				2Q				
OT&E				4Q				
N/S C Full rate production					2Q			

EXH	EXHIBIT R-2a, RDT&E Project Justification									
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME P						PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev	0206624M Mai	rine Corps Com	bat Services S	C0201 Logistical Vehicle System Replacement (LVSR)						
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY2009	Cost to Complete	Total Program	
Project Cost	4.771	8.872	4.767	6.201	4.415	0.397	0.173	0.000	29.596	
RDT&E Articles Qty		9		·					·	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Logistical Vehicle System Replacement (LVSR) program will determine the replacement vehicle for the Logistical Vehicle System (LVS). This vehicle will increase mobility, maintainability, and reliability for the heavy fleet, while increasing off-road payload. The Flatrack Refueling Capability (FRC) program will replace the M970 Semi-Trailer refueling in both the Force Service Support Group (FSSG) and the Marine Air Wings (MAWs) for ground refueling missions.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.205	0.000	0.000
RDT&E Articles Qty			

LVSR: Modeling and Simulation.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.523	0.000	0.000
RDT&E Articles Qty			

LVSR: Engineering and Technical support for base and variant development.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.384	0.100	0.000
RDT&E Articles Qty			

LVSR: Source Selection and Contracting costs.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	3.659	0.050	0.100
RDT&E Articles Qty			

LVSR: Program management and support.

LVSR: FY03 funding forward finances FY04 LVSR Prototype development.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	8.324	0.000
RDT&E Articles Qty		6	

LVSR: Obtain prototypes. Conduct system development and demonstration.

Pebruary 2004	APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME C0201 Logistical Vehicle System Replacement (LVSR)
RDT&E, N /BA-7 Operational Sys Dev 0206624M Marine Corps Combat Services Support C0201 Logistical Vehicle System Replacement (LVSR)	RDT&E, N /BA-7 Operational Sys Dev
COST (\$ in Millions)	COST (\$ in Millions)
Accomplishment/Effort Subtotal Cost RDT&E Articles Qty LVSR: Initiate Developmental Test and Evaluation. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.393 0.000 RDT&E Articles Qty 3 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.393 0.000 RDT&E Articles Qty 3 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.005 0.000 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.005 0.000 RDT&E Articles Qty Frovide Program Management and support. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FRC: Initiate system Development and Demonstration. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000	Accomplishment/Effort Subtotal Cost 0.000 0.000 4.667
LVSR: Initiate Developmental Test and Evaluation. FY 2003 FY 2004 FY 2005	LVSR: Initiate Developmental Test and Evaluation. FY 2003
COST (\$ in Millions)	COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.393 0.000 RDT&E Articles Qty 3 FRC: Acquire Prototypes COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.005 0.000 RDT&E Articles Qty 7 FRC: Provide Program Management and support. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FRC: Initiate system Development and Demonstration. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000
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FRC: Initiate system Development and Demonstration. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FRC: Initiate Operational Test and Evaluation.	FRC: Initiate system Development and Demonstration. COST (\$ in Millions) FY 2003 FY 2004 FY 2005 Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty
Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FRC: Initiate Operational Test and Evaluation.	Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty
Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty FRC: Initiate Operational Test and Evaluation.	Accomplishment/Effort Subtotal Cost 0.000 0.000 0.000 RDT&E Articles Qty
FRC: Initiate Operational Test and Evaluation.	
FRC: Initiate Operational Test and Evaluation.	
(T) T + 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
(U) Total \$ 0.000 4.771 8.872 4.767	(U) 10tal \$ 0.000 4.771 8.872 4.767

EXH	IBIT R-2a, RDT&E F	DATE: February 2004						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEME	PROJECT NUMBER AND NAME						
RDT&E, N /BA-7 Operational Sys Dev	0206624M Marine	Corps Combat	t Services Support	C0201 Logistical Vehicle System Replacement (LVSR)				
(U) Project Change Summary	FY2003	FY2004	FY2005					
(U) FY2004 President's Budget	6.764	8.972	6.146					
(U) Adjustments from the President's Budg	et:							
(U) Congressional/OSD Program Red	uctions							
(U) Congressional Rescissions								
(U) Congressional Increases								
(U) Reprogrammings	-1.719		-1.359					
(U) SBIR/STTR Transfer	-0.274							
(U) Minor Affordability Adjustment		-0.100	-0.020					
(U) FY 2005 President's Budget:	4.771	8.872	4.767					
CHANGE SUMMARY EXPLANATION	N·							

HANGE SUMMARY EXPLANATION:

- (U) Funding: Change in FY03 funding is due to a \$274K SBIR reduction and a \$1,518K addition for realignment within Marine Corps. Change in FY04 funding is due to minor affordability adjustments. Change in FY05 funding is due to \$1,359K realignment within Marine Corps and \$20K reduction due to affordability adjustments.
- (U) Schedule: Not Applicable.
- (U) Technical: Not Applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY2008	FY2009	To Compl	Total Cost
(U) PMC Line (BLI# 509300) FlatRack	0.000	0.000	0.000	0.000	22.066	22.200	0.000	0.000	44.266
(U) PMC Line (BLI# 509300) LVSR	0.000	0.000	0.000	26.918	57.849	96.670	57.033	Cont	Cont

(U) Related RDT&E:

- (U) PE 0206623M Marine Corps Ground Combat Supporting Arms Systems
- (U) PE 0603640M Marine Corps Advanced Technology Demonstration
- (U) PE 0604804A Logistics and Engineering Equip/Engr Development
- (U) PE 0206313M Marine Corps Communications

(U) D. ACQUISITION STRATEGY: The Logistics Vehicle System Replacement (LVSR) program will consist of two separate phases. During the first phase, the System Development and Demonstration (SD&D) phase up to two contracts will be awarded to procure prototypes for developmental testing. The winner of the SD&D phase will be awarded a production contract to produce LRIP vehicles for operational testing.

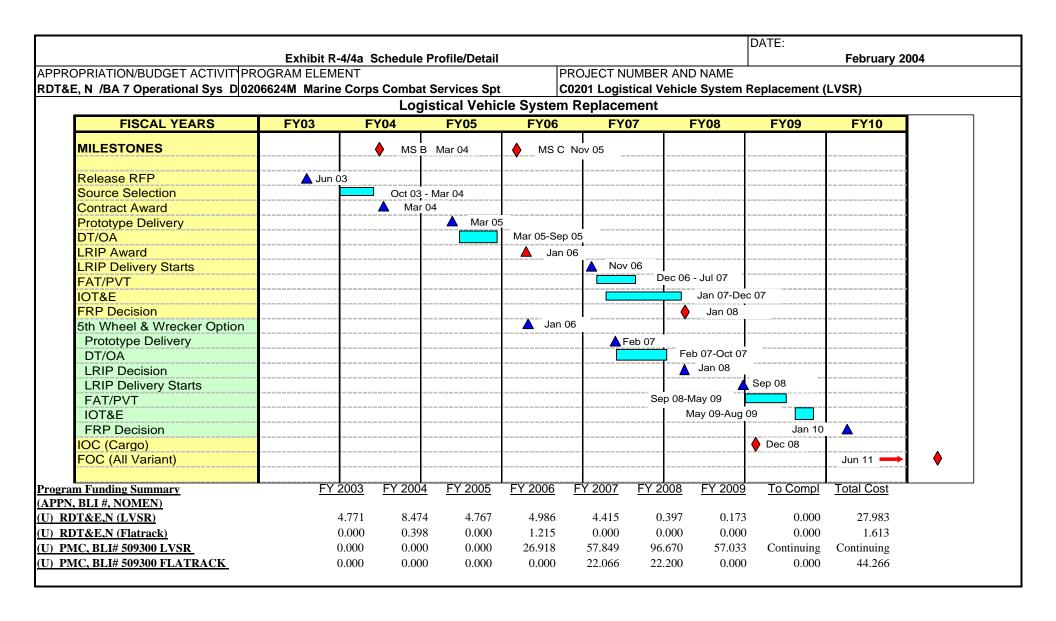
(U) E. MAJOR PERFORMERS:

'03 Nevada Automotive Test Center (NATC) Modeling and Simulation

Mar '04 TBD 6 Vehicle Prototypes

							DATE:					
		Exhibit R-3 Cost Analys								oruary 2004		
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM ELE						T NUMBER				
RDT&E, N /BA 7 Operation	al Sys Dev	0206624M Mari	ine Corps	Combat S		pt		ogistical V		tem Replacer	nent (LVSR)	
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Source Selection	RCP	MCSC Quantico, VA	0.000	0.240	07/03	0.100	10/03			0.000	0.340	0.340
LVSR Prototypes	RCP	TBD	0.000			8.324	12/03			Cont.	Cont	
FRC Prototypes	RCP	NATC Carson City, NV	0.000			0.393	01/04			0.000	0.393	0.393
Subtotal Product Dev			0.000	0.240		8.817		0.000		0.000	9.057	7
Remarks:												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
, and the second	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Modeling & Simulation	RCP	NSWC, Carderock	0.000	0.205	11/02					0.000	0.205	0.205
Subtotal Support			0.000	0.205						0.000	0.205	5
Remarks:												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
_	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
LVSR Operational T&E	TBD	TBD	0.000					4.667	03/05	Cont.	Cont	
Subtotal T&E			0.000	0.000				4.007		0.000	4.007	,
Remarks:			0.000	0.000				4.667		0.000	4.667	
Remarks.												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Engineer & Tech Support	RCP	MCSC Quantico, VA	0.000	0.667	04/03					0.000	0.667	
Subtotal Support				0.667		0.000		0.000		0.000	0.667	'
Remarks:												
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
LVSR Contractor Suppt	RCP	Sverdrup, Dumfries, VA.	0.000	3.579	11/02			0.050	10/04	Cont.	Cont	
LVSR Prgrm Mgmnt Spt	WR	MCSC Quantico, VA	0.000	0.080	11/02	0.050	10/03	0.050	10/04	Cont.	Cont	
FRC Prgrm Mgmnt Spt	WR	MCSC Quantico, VA	0.000	0.000		0.005	10/03	0.000	10/04	Cont.	Cont	
Subtotal Management				3.659		0.055		0.100		0.000	3.814	ļ
Remarks:			_				_					
Total Cost				4.77	1	8.872	2	4.767	7	0.000	18.410	
	•	•	•	•	•	•	•	•	•	•	•	•

R-1 SHOPPING LIST - Item No. 184



TON/BUDGET ACTIVIT PROGRAM ELEMENT	Schedule Profile/Deta		PROJECT N	NUMBER AI	ND NAME		February 2
A 7 Operational Sys D 0206624M Marine Corp	s Combat Services S	pt	C0201 Logi	stical Vehic	cle System I	Replacement	(LVSR)
LVSR SCHEDULE DETAIL	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Release RFP	3rd qtr						
Source Selection		1st-2nd qtr					
Contract Award		2nd qtr					
Prototype Delivery			2nd qtr				
DT/OA			2nd-4th qtr				
LRIP Delivery					1st qtr		
FAT					1st-3rd qtr		
IOT&E					2nd qtr	1st qtr	
FRP Decision						2nd qtr	
5th Wheel/Wrecker Option				2nd qtr			
Prototype Delivery					2nd qtr		
DT/OA					2nd qtr	1st qtr	
LRIP Delivery						4th qtr	
FAT						4th qtr	2nd qtr
FRP Decision 2nd FY10							
FOC 3rd FY11							

EXHIB	IT R-2a, RDT&E P	roject Justifica	ation			DATE: Feb	ruary 2004				
APPROPRIATION/BUDGET ACTIVITY	TIVITY PRO					DGET ACTIVITY PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev	0206624M Mar	206624M Marine Corps Combat Services Spt				C2316 Combat Services Support Engineering Equipment					
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY2008	FY2009	Cost to Complete	Total Program		
Project Cost	8.708	7.660	1.984	0.513	0.531	0.543	0.553	0.000	20.492		
RDT&E Articles Qty	4										

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. This project includes improvements in all areas of Combat Service Support Engineering Equipment. The Assault Breacher Vehicle (ABV) will be a fully tracked, armored combat engineer vehicle capable of keeping pace with the maneuver force. It will breach minefields with Marine Corps integrated items to include a full width mine plow, two line charges, remote control kit, weapons station and lane marking system. The ABV is a survivable combat system which will enhance the combat breaching capabilities of the ground combat elements. The overall system is integrated on the ABRAMS tank chassis to provide commonality with the tank fleet while providing the latest technology in armor protection. It will provide capabilities to breach minefields and complex obstacles.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	1.275	0.000	0.000
RDT&E Articles Qty			

ABV: Management support, travel, technical manuals and drawings. Support and management including obtaining safety certification from the Weapons Systems Safety Explosive Review Board (WSSERB).

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Qty			

ABV: Developmental testing.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	6.319	0.000	0.000
RDT&E Articles Qty			

ABV: Integration of the line charges, lane-marking system, weapons station, remote control kit, & full width mine plow onto the modified M1 Tank Chassis. Build 3 LRIP vehicles for OT&E. One demonstrator will be used as a configuration management control vehicle for the development, tech manuals and drawings for the three LRIP vehicles.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	1.114	1.000	
RDT&E Articles Qty			

ABV: Operational testing, vulnerability/survivability testing, and Reliability, Availability and Maintainability (RAM) testing of the ABV.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.320	1.489
RDT&E Articles Qty			

ABV: Conduct a Limited User Test and Operational Test & Evaluation.

ЕХНІВІ	DATE: February 2004					
APPROPRIATION/BUDGET ACTIVITY	PROPRIATION/BUDGET ACTIVITY PROJECT NUMI					
RDT&E, N /BA-7 Operational Sys Dev	0206624M Ma	0206624M Marine Corps Combat Services Spt			at Services Support Engine	ering Equipment
COST (\$ in Millions)		FY 2003	FY 2	2004	FY 2005	
Accomplishment/Effort Subtotal Cost		0.000		886	0.000	
RDT&E Articles Qty						

M1A1 Firepower Enhancement: Conduct comparative assessments of competing designs and conducted system design review to finalize system performance specification. Perform Final Integration and Prove out. Perform Engineering and Manufacturing Development (EMD) phase activities. Procure test articles; conduct developmental and operational test and evaluation; pre-production technical reviews/audits, and logistical support development in planning for production. Funding for this effort in FY02 (\$274K) and FY03 (\$236K) is provided under Project C1901, PE 0206623M, MC Ground Combat/Support Arms Systems.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.454	0.495
RDT&E Articles Qty			

FY2004

M1A1 Armor Mods: Continue joint participation and evaluation of prospective modifications including Component Enhancements, Advanced Fire Control Systems, Survivability Systems, Combat Identification, mobility and others. Funding for this effort in FY02 and FY03 is provided under Project C1901, PE 0206623M, MC Ground Combat/Support Arms Systems.

FY2005

(U) Total \$ 0.000 8.708 7.660 1.984

FY2003

(U) PROJECT CHANGE SUMMARY:

(U) FY 2004 President's Budget: (U) Adjustments from the President's Budget: (U) Congressional/OSD Program Reductions (U) Congressional Rescissions (U) Congressional Increases	10.004	6.746	0.495
(U) Reprogrammings (U) SBIR/STTR Transfer	-1.191 -0.105	1.000 -0.086	1.495 -0.006
(U) FY 2005 President's Budget:	8.708	7.660	1.984

CHANGE SUMMARY EXPLANATION:

(U) Funding: See Above.(U) Schedule: Not Applicable.(U) Technical: Not Applicable.

ЕХНІВІТ	EXHIBIT R-2a, RDT&E Project Justification								
APPROPRIATION/BUDGET ACTIVITY					PROJECT NUM	BER AND NAM	ΛE		
RDT&E, N /BA-7 Operational Sys Dev	0206624M Marin	e Corps Comb	at Services Sp	t	C2316 Combat	Services Sup	port Engineeri	ng Equipment	
(U) C. OTHER PROGRAM FUNDING SUMMAI	RY:								
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
(U) PMC Line (BLI# 613300) ABV	0.000	0.000	4.621	47.782	47.884	0.000	0.000	0.000	100.287
(U) PMC (BLI#206300) Mod Kits (Trcked Veh)	3228	2.753	3.864	3.941	4.023	4.111	4.202	Continuing	Continuing
(U) PMC (BLI#206300) Safety Mods	0.000	0.993	3.112	3.283	3.270	3.141	1.633	Continuing	Continuing
(U) PMC (BLI#209500) M1A1 FEP	0.000	4.191	36.873	33.168	17.802	22.980	0.000	0.000	115.014

(U) Related RDT&E:

- (U) PE 0206623M Marine Corps Ground Combat Supporting Arms Systems
- (U) PE 0603640M Marine Corps Advanced Technology Demonstration
- (U) PE 0604804A Logistics and Engineering Equip/Engr Development
- (U) PE 0206313M Marine Corps Communications

(U) D. ACQUISITION STRATEGY:

- (U) The **M1A1 MOD** and **Safety Mods** Program leverages Army developmental programs to create a system that more readily meets Marine Corps requirements. Modification includes safety, reliability, and technology up-grades to meet Marine Corps requirements. M1A1 Mods will exercise options on existing contracts of varying types to conduct research and analysis associated with the development of modifications to the M1A1 Tank and supporting platforms. **M1A1 Firepower Enhancement** Competitively Awarded 2 Cost Plus Firm Fixed contracts to conduct parallel design, integration and demonstration of Non-Developmental Item (NDI) technology for the M1A1 Firepower Enhancement. Down select to a single contractor with the most promising concept, continuing with design development until production ready. Finally, transition to production with the winning design by exercising a Firm Fixed Price contract option.
- (U) **ABV**: SYSTEM DEVELOPMENT & DEMONSTRATION PHASE: Conduct modeling to support vehicle platform selection and trade studies for line charge integration. Modeling applications to support Analysis of Alternatives/Testing & Evaluation Alternatives (AOA/TEA). Establish Statement of Work (SOW) with Anniston Army Depot to build demonstrator vehicle and integrate full width mine plow, lane marking system, line charges, weapons systems & remote control system to the M1 Tank Chassis. Conduct plow tests with the demonstrator vehicle. Conduct developmental testing to include live mine testing and survivability/vulnerability analysis. Conduct trade study (examining capabilities and cost to down select). Select a systems integrator for the production of the LRIP and production vehicles.

(U) E. MAJOR PERFORMERS:

FY02 - 09/02 TACOM/PM ABRAMS, Warren, MI-Integrate components onto the modified M1 Chassis to build the ABV Demonstrator

FY03 - 06/03 Anniston Army Depot-Build three ABV's through a SOW

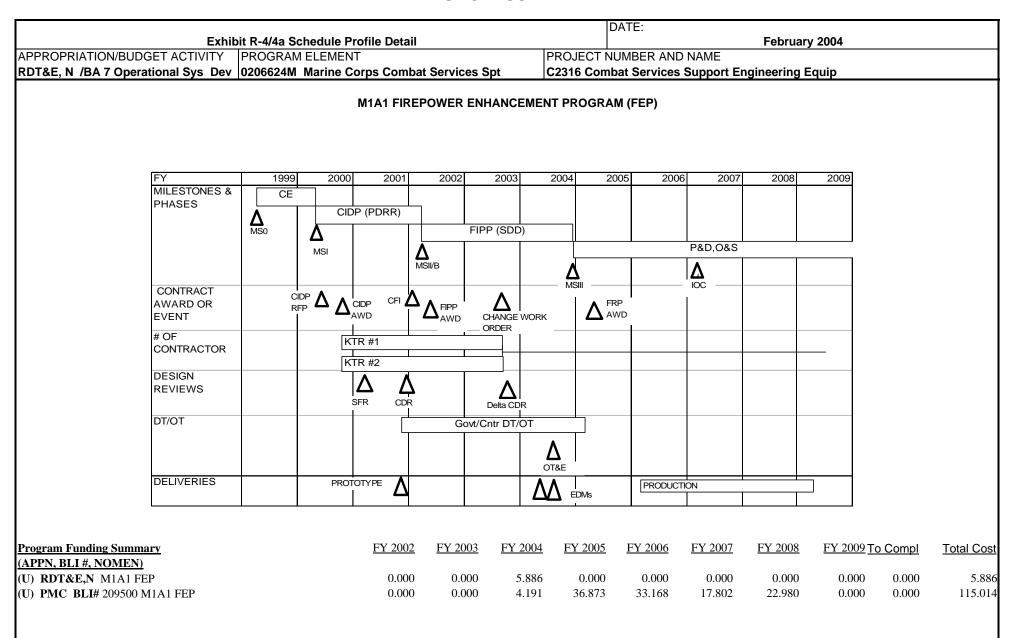
FY04 - 02/03 ATC, Aberdeen, MD-Test activity for the ABV during DT

						DATE:						
	E	khibit R-3 Cost Analysis						F	ebruary 2	2004		
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM ELEME	ENT			PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operation	al Sys De	v 0206624M Marine	Corps Co	mbat Ser	vices Spt	C2316 Combat Services Support Engineering Equip						
	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Cost Categories	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
Systems Engineering -ABV	Various	Various	4.073	3.439	07/03	0.000		0.000		0.000	7.512	8.073
Systems Engineering -ABV	Various	Various	1.588	1.830	07/03	0.000		0.000		0.000	3.418	3.418
Systems Engineering -ABV	MIPR	NSWC, Crane, IN	0.345	0.150	07/03	0.000		0.000		0.000	0.495	0.825
Engineering/Design	MIPR	PM Unmanned Grd Vehicles	0.900	0.900	07/03	0.000		0.000		0.000	1.800	0.900
Prod Dev - M1A1 Firepower	RCP	Raytheon, McKinney, TX	0.000	0.000		3.334	1Q/04	0.000		0.000	3.334	
PROD DEV - M1A1 Mods	RCP	TBD	0.000	0.000		0.217	1Q/04	0.182	1Q/05	Cont.	Cont.	
Subtotal Product Dev			6.006	6.319		3.551		0.182		Cont.	Cont.	
Remarks:	1			1	ı	·	1	I.	ı	-I		
	Cambra - 4	Performing	Total		FY 03	1	FY 04	I	FY 05			Townst
	Contract Method	Activity &	Total PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value of
Coot Cotomorica		1	Cost			Cost						Contract
Cost Categories	& Type RCP	Location BAE		Cost	Date		Date	Cost	Date	Complete		
Program Support - ABV		1	1.484	0.495	07/03	0.000		0.000		0.301	2.280	2.280
Program Support - ABV	RCP RCP	MCSC, Quantico, VA SVERDRUP	1.013	0.280	07/03	0.000	1	0.000		0.225	1.518 0.200	1.518 0.000
Program Support - ABV	MIPR	NAVFAC	0.200	0.000	07/03	0.000	1	0.000		0.000	0.200	0.800
Program Support - ABV	WR	MCSC, Quantico, VA	_	0.000	07/03		10/01		10/05			0.800
Program Supp-M1A1 Mods Program Supp-M1A1 FEP	MIPR	Tacom, ARDEC Warren, MI	0.000	0.000		0.207 0.150	1Q/04 1Q/04	0.313	1Q/05	0.000	Cont. 0.150	0.150
Subtotal Support	MIPR	racom, ARDEC warren, Mi	2.697	1.275		0.150	TQ/04	0.000		Cont.	Cont.	0.150
Remarks:			2.097	1.273	l	0.337		0.313		Cont.	Cont.	
Remarks.												
	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Cost Categories	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
DT&E - ABV	MIPR	WES, Vicksburg, MS	0.995	0.314	07/03	0.000		0.000		0.000	1.309	1.309
DT&E - ABV	WR	MCOTEA, Quantico, VA	0.000	0.500	07/03	0.000		0.000		Cont.	Cont.	
DT&E - ABV	MIPR	NSWC, Crane, IN	0.860	0.300	07/03	0.000		0.000		0.000	1.160	1.160
OT&E - ABV	MIPR	APG, MD	0.000	0.000		1.000	TBD	1.489	TBD	Cont.	Cont.	
Engineering/Design	MIPR	PM Unmanned Grd Vehicles	0.000	0.000		0.320	TBD	0.000		0.000	0.320	0.340
M1A1 Firepower	WR	FMF	0.000	0.000		0.300	1Q/04	0.000		0.000	0.300	0.300
M1A1 Firepower	RCP	TBD	0.000	0.000		1.502	TBD	0.000		0.000	1.502	1.502
M1A1 Firepower	MIPR	APG, MD	0.000	0.000		0.500	1Q/04	0.000		0.000	0.500	0.500
M1A1Firepower	MIPR	YUMA, AZ	0.000	0.000		0.100	1Q/04	0.000		0.000	0.100	0.100
Subtotal T&E			1.855	1.114		3.722		1.489		Cont.	Cont.	
i												

							DATE:						
			ost Analysis							ebruary 2	2004		
APPROPRIATION/BUDGET	-		PROGRAM ELEMEN					_	ER AND N				
RDT&E, N /BA 7 Operation	al Sys De	v	0206624M Marine C	orps Co	mbat Ser	vices Spt	C2316 C	ombat S	ervices S	upport Ei	ngineering	Equip	
	Contract	Performing	g	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
Cost Categories	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
M1A1 MOD KIT	RCP	BAEST, Inc	c, Stafford, VA	0.000	0.000		0.030	1Q/04			0.000	0.030	0.030
Subtotal Management				0.000	0.000		0.030		0.000		Cont.	Cont.	
Remarks:													
	1		7		1	1			ı	1	1	1	_
Total Cost					8.708	}	7.660		1.984	•	Cont.	Cont.	

	R-4/4a Schedu PROGRAM ELEN		tail		PROJECT N	DATE: UMBER ANI) NAME	Februar	y 2004
, N /BA 7 Operational Sys Dev 0			mbat Services		C2316 Comb			gineering	Equip
			ASSAULT	BREACHER	VEHICLE				
Fiscal Year Quarter	00 I II III IV	01 I II III IV	02 I II III IV	03 I II III IV	I II III IV	05 I II III I	06 V I II III		07 III IV
Milestone 0	•								
System Development									
System Testing/DT									
Milestone B				•					
Build 3 LRIP									
LUT									
IOT&E						5			
MS C/Full Rate Production						₹			
Fielding Decision							♦		
IOC								♦	
FOC									♦
Funding Summary BLI#, NOMEN)		FY 20				FY 2007	FY 2008	FY 2009	To Compl Total Cos
E <u>.N</u> BLI# 613300 ABV			708 1.320 000 0.000			0.000 47.884	0.000 0.000	0.000	0.000 11.51 0.000 100.28

/BA 7 Operational Sys Dev 0206624M Marine Co	orps Combat Services	Spt	C2316 Cor	mbat Servic	es Support	Engineering	Equip	
ABV SCHEDULE DETAIL	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
System Development	1st Qtr							
System Testing/DT		1st Qtr						
Milestone B		4th Qtr						
Build 3 LRIP		4th Qtr	1st Qtr					
Limited User Test			2nd Qtr					
IOT&E			3rd Qtr	1st Qtr				
Milestone C/Full Rate Production Decision				3rd Qtr				
Fielding Decision					2nd Qtr			
IOC					4th Qtr			
FOC						4th Qtr		



N/BUDGET ACTIVITY PROGRAM ELEMENT Operational Sys Dev 0206624M Marine Corps Comb	at Services	Snt		NUMBER A	ND NAME es Support		ary 2004	
Firepower Enhancement SCHEDULE DETAIL	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone II/B	1st qtr							
Contract Award	3rd qtr							
IOT&E	ora qu		3rd qtr					
Milestone C			4th qtr					
FRP Award			101 90	2nd qtr				
Production Deliveries (FY05 - FY09)				zna qu	1st qtr			

			UNCLAS	SSIFIED								
EXH	IBIT R-2a, RDT&E P	roject Justific	ation			DATE:	Februa	ry 2004				
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUM	BER AND NAM	ЙĒ									
RDT&E, N /BA-7 Operational Sys Dev	0206624M Marii	0206624M Marine Corps Combat Services Support						C2509 Motor Transport Systems				
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY2008	FY2009	Cost to Complete	Total Program			
Project Cost	2.169	0.439	0.445	0.450	0.551	0.570	0.582	Cont	Cor			
RDT&E Articles Qty												
(U) A. MISSION DESCRIPTION AND BUDGI	ET ITEM JUSTIFICA	TION:				•		•				

The Marine Corps Tactical Transportation Program manages procurement and life cycle sustainment for more than 40,000 principle end items divided among four fleets: Light Fleet, Medium Fleet, Heavy Fleet, and Special Fleet. A sustained effort is maintain

Motor Transportation Modification program line specifically develops Marine Corps unique improvements/modernizations to fielded transportation systems and supports monitoring the commercial automotive industrial base for technology insertions to increase

(U) B. ACCOMPLISHMENTS/PLANNED:

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.060	0.080	0.085
RDT&E Articles Qty			

MTM: Program management and travel in support of Transportation Systems modifications, COTS/NDI modernizations.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.240	0.359	0.360
RDT&E Articles Qty			

MTM: Testing, integration, evaluation of Transportation Systems modifications.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.073	0.000	0.000
RDT&E Articles Qty			

MTM: Perform Rollover Test on the High Mobility Multipurpose Wheeled Vehicle (HMMWV).

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	1.796	0.000	0.000
RDT&E Articles Qty			

MTM: Modeling and simulation, test and evaluation for the High Mobility Multipurpose Wheeled Vehicle (HMMWV), P19 Firefighter and Logistical Vehicle System.

(U) Total \$ 2.169 0.439 0.445

			UNCLASS	SIFIED						
EXHIB	IT R-2a, RDT&E Pro	ject Justificati	on		D	DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEM 0206624M Marine			port		ROJECT NUMBER AND NAME 2509 Motor Transport Systems				
(U) Project Change Summary	FY2003	FY2004	FY2005							
(U) FY 2004 President's Budget: (U) Adjustments from the President's Budget: (U) Congressional/OSD Program Reduction (U) Congressional Rescissions (U) Congressional Increases (U) Reprogrammings (U) SBIR/STTR Transfer (U) Minor Affordability Adjustment (U) FY 2005 President's Budget: CHANGE SUMMARY EXPLANATION: (U) Funding: Change in FY03 funding is Change in FY04 funding is due to \$50 (U) Schedule: Not Applicable.	-0.286 -0.003 2.169 s due \$3K reduction to			•			•			
(U) Technical: Not Applicable. (U) C. OTHER PROGRAM FUNDING SUMMA	RY:									
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY2008	FY2009 T	•	Total Cost	
(U) PMC (BLI# 523000) < \$5M (MT-MOD)	3.432	2.865	2.437	2.522	2.569	2.619	2.668	Continuing	Continuing	
(U) PMC (BLI# 509300) Flatrack	0.000	0.000	0.000	0.000	22.066	22.200	0.000	0.000	44.266	
(U) PMC (BLI# 509300) LVSR (U) Related RDT&E: Not Applicable.	0.000	0.000	0.000	26.918	57.849	96.670	57.033	Continuing	Continuing	

(U) D. ACQUISITION STRATEGY: The MTM program is a sustained program line for "level of effort" programs. Funding will focus on streamlined acquisitions of Commercial-Off-The-Shelf Non-Developmental Items (COTS/NDI) that can be identified, integrated,

(U) E. MAJOR PERFORMERS:

Feb - 03 Advanced Vehicle Systems (AVS) Design, fabricate and test prototype subsystems Engineering Change Proposals for the IFAV.

Apr - 03 Nevada Automotive Test Center

EX	HIBIT R-2a, RDT&E	Project Justific	ation			DATE:			
							Februar	y 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELE	MENT NUMBE	R AND NAME		PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev	0206624M Mar	ine Corps Com	bat Services S	upport	C2929 Testing	2929 Testing Measuring Diagnostic Equip (TMDE) & SE			E
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	0.307	2.209	1.075	1.514	1.139	2.018	2.007	Cont	Con
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Alternative Power Sources for Communications Equipment (APSCE) is a suite of devices that provides the commander with the capability to use existing power to operate communication equipment, computers and peripheral equipment instead of using batteries or

The Marine Corps Family of Automatic Test Systems (ATS) formely TETS, provides automatic test program capability for use by technicians both in garrison and forward edge of battlefield. Specific work in area of interactive electronic tech manuals, condit

The Marine Corps Automatic Test Equipment (MCATE), provides development of sustainment technology for automatic test equipment used in organizational/intermediate maintenance facilities.

(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.113	0.123	0.126
RDT&E Articles Qty			

APSCE: Research, evaluation, test and selection of alternative power source products for the APSCE suite of equipment.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.194	1.634	0.466
RDT&E Articles Qty			

ATS: Development of new technology testing applications in support of emerging weapon systems.

COST (\$ in Millions)	FY 2003	FY 2004	FY 2005
Accomplishment/Effort Subtotal Cost	0.000	0.452	0.483
RDT&E Articles Qty			

MCATE: Develop new technology for sustainment of current Marine Corps Automatic Test Equipment.

(U) Total \$ 0.307 2.209 1.075

EXHIBI	T R-2a, RDT&E Pro	oject Justificati	on			DATE:			
							February	/ 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER A	AND NAME		PROJECT NUM	IBER AND NAME			
									_
RDT&E, N /BA-7 Operational Sys Dev	0206624M Marine			port	C2929 Testing	Measuring Diagr	nostic Equip	(TMDE) & SE	
(U) FY 2004 President's Budget:	FY2003 0.323	FY2004 2.234	FY2005 1.079						
(U) Adjustments from the President's Budget:	0.323	2.234	1.079						
(U) Congressional/OSD Program Reduction	.e								
(U) Congressional Rescissions									
(U) Congressional Increases									
(U) Reprogrammings									
(U) SBIR/STTR Transfer	-0.006								
(U) Minor Affordability Adjustment	-0.010	-0.025	-0.004						
(U) FY 2005 NAVCOMPT Budget: CHANGE SUMMARY EXPLANATION: (U) Funding: See above. (U) Schedule: Not Applicable.	0.307	2.209	1.075						
(U) Technical: Not Applicable. (U) C. OTHER PROGRAM FUNDING SUMMAR	γ.								
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY2008	FY2009	To Compl	Total Cost
(U) PMC Line (BLI# 462000) APSCE	4.474	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.474
(U) PMC Line (BLI# 636600) APSCE	0.000	4.680	3.420	3.238	3.724	0.000	0.000	0.000	15.062
(U) PMC Line (BLI# 440200) MCATE	0.000	1.111	2.020	2.344	2.286	2.381	2.421	Continuing	Continuing
(U) PMC Line (BLI# 440200) ATS/TETS	1.973	19.201	13.803	8.410	9.697	12.140	0.612	Continuing	Continuing

(U) Related RDT&E:

(U) D. ACQUISITION STRATEGY:

Competitive through the GSA Schedule. All other work is being done in-house at Marine Corps Logistics Base (MCLB), Albany, Naval Surface Warfare Center (NSWC), and Seal Beach, CA.

(U) E. MAJOR PERFORMERS: Automatic Test Equipment Program (ATEP), Albany, GA for the minor performances. All other performers to be determined at this time.

									DATE:			
		Exhibit R-3 Cost									ary 2004	
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM E	LEMENT				PROJECT	NUMBE	R AND NA	ME		
RDT&E, N /BA 7 Operation	nal Sys Dev	0206624M N	larine Corp	os Comba	t Services	Spt	C2929 Te	sting Me	asuring D	iagnostic Equ	ip (TMDE) & SE
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value o
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Study & Hardware	RCP	Mantech, Va	0.100	0.022	03/03	0.040				0	0.162	0.100
Study	RCP	MKI, Va				0.150	03/04			Cont.	Cont.	
Study	RCP	TBD		0.068	05/03	0.250	03/04			Cont.	Cont.	
Study & Hardware	RCP	TBD				1.096		0.696	03/05	Cont.	Cont.	
Hardware	RCP	Willitis Electronic Assembly	0.019								0.019	0.019
Hardware	RCP	MCSC, Quantico VA		0.028	02/03	0.088	12/03	0.092	12/04	Cont.	Cont.	
Software Support	WR	ATEP, Ga	0.050	0.100	03/03	0.300	12/03	0.252	12/04	Cont.	Cont.	
Hardware & Study	WR	NSWC, Ca	0.043			0.250				0.000	0.293	
Subtotal Product Dev		,	0.212	0.218		2.174		1.040		Cont.	Cont.	
Remarks:			<u> </u>			II.		l .		l l		
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value o
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contrac
Travel	WR	MCSC, Quantico VA	0.005	0.089	03/03	0.035	12/03	0.035	12/04	Cont.	Cont.	
Subtotal Support			0.005	0.089		0.035		0.035		Cont.	Cont.	
Remarks:			•									
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
3	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05		Cost to	Total	Value of
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete		Contract
EVAL TESTING	WR	CRANE, In	0.084							0.000	0.084	
Subtotal T&E			0.084			0.000		0.000		0.000	0.084	
Remarks:			1 01001				1	0.000				0.00
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			Target
_	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Value of
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	Contract
			0.000	0.000		0.000		0.000		Cont.	Cont.	
Subtotal Management		t e e e e e e e e e e e e e e e e e e e	J					· · · · · ·	1			l
Subtotal Management Remarks:	*	•										

CLASSIFICATION:

EXHII	BIT R-2, RDT&E Budg	get Item Justifica	ation				DATE:			
								Febru	uary 2004	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NO	MENCLATURE	Ē			
RESEARCH DEVELOPMENT TEST & EVALUAT	ION, NAVY /	BA-7			0207161N-Tag	ctical Air Interc	ept			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
Total PE Cost		2.812	2.236	4.061	9.345	7.869	2.474	1.222		
E0457 AIM-9X		2.812	2.236	4.061	9.345	7.869	2.474	1.222		

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

AIM-9X is a long-term evolution of the AIM-9, a fielded system, qualifying this as a research category operational systems development. The AIM-9X (Sidewinder) short range air-to-air missile modification program provides a launch and leave, air combat munition that uses passive infrared (IR) energy for acquisition and tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile. Air superiority in the short range air-to-air missile arena is essential and includes first shot, first kill opportunity against an enemy employing IR countermeasures. The AIM-9X employs several components common with the AIM-9M (fuse, rocket motor and warhead). Anti-Tamper features are being incorporated to protect improvements inherent in AIM-9X design.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER ANI	D NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0207161N-Tactica	l Air Intercept			E0457-AIM-9X			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		2.812	2.236	4.061	9.345	7.869	2.474	1.222
RDT&E Articles Qty		13						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

AIM-9X is a long-term evolution of the AIM-9, a fielded system, qualifying this as a research category operational systems development. The AIM-9X (Sidewinder) short range air-to-air missile modification program provides a launch and leave, air combat munition that uses passive infrared (IR) energy for acquisition and tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile. Air superiority in the short range air-to-air missile arena is essential and includes first shot, first kill opportunity against an enemy employing IR countermeasures. The AIM-9X employs several components common with the AIM-9M (fuse, rocket motor and warhead). Anti-Tamper features are being incorporated to protect improvements inherent in AIM-9X design.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	non			DATE: February 2004	
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBE	ER AND NAME	PROJECT NUMBER AND N		
T&E, N / BA-7	0207161N-Tactical Air Intercep	ot	E0457-AIM-9X		
B. Accomplishments/Planned Program					
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		1.045			
RDT&E Articles Quantity					
					,
Continued EMD efforts to include OT-IIB, inclu	ding correction of issues identified duri	ng OT.			
		E)/ 00			
Accomplishments/Effort/Subtotal Cost		FY 03 1.767	FY 04 0.150	FY 05 0.165	
Accomplishments/Effort/Subtotal Cost		1./6/	0.150	0.165	
Continue providing Government flight test sup	nort				
Continue providing Government hight test supp	Joil				
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		FY 03			
Accomplishments/Effort/Subtotal Cost		FY 03	FY 04 2.086	FY 05 3.896	
		FY 03			
Accomplishments/Effort/Subtotal Cost Begin P3I efforts for AIM-9X fuse.		FY 03			
		FY 03			
		FY 03			
		FY 03			
		FY 03			

R-1 SHOPPING LIST - Item No.

185

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0207161N-Tactical Air Intercept			E0457-AIM-9X	
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	1.909	2.322	4.110		
Current BES/President's Budget	2.812	2.236	4.061		
Total Adjustments	0.903	-0.086	-0.049		
Summary of Adjustments					
Congressional program reduct Congressional undistributed re		-0.026			
Congressional rescissions SBIR/STTR Transfer					
Economic Assumptions			-0.009		
Reprogrammings	0.903				
Reprioritization		-0.060	-0.040		
Congressional increases					
Subtotal	0.903	-0.086	-0.049		
to April 2004 and the Milestone III (MSI	mpletion of Initial Operational Test and Eval II) Threshold to September 2004. Additiona cts to achieve MSIII approval in February 20	ally, Lot 4 was c			
(U) Technical: (U) Technical:					

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:		
								Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT NUMB	ER AND NAME		PROJECT NUM	IBER AND N	AME		
RDT&E, N / BA-7	0207161N-Tact	ical Air Interce	pt		E0457-AIM-9X				
(U) D. OTHER PROGRAM FUNDING SUMMARY:									
(0, 2. 0.1.2								То	Total
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	<u>Cost</u>
220900 AIM-9X Missile	52.230	25.626	35.177	38.309	49.209	50.023	45.870	849.095	1181.469
231500 AIM-9M Mods	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583
AIM-9X Spares	1.085	1.413	1.867	3.186	4.889	4.579	3.338	0.000	
AIM-9X Mods/Missile (Air Force)	54.148	53.174	52.595	55.171	43.767	54.529	55.918	714.461	
(U) RELATED AIR FORCE RDT&E:									
Program Element: 0207161F	2.785	0.372	5.558	15.004	5.543	5.631	5.719		

(U) E. ACQUISITION STRATEGY:

After a full and open competition, a Cost Plus Incentive Fee/Award Fee contract was awarded to Hughes Missile System Company (now Raytheon Systems Corporation) (RSC) to complete missile system development and prepare for production. This Engineering and Manufacturing Development (EMD) contract includes three Fixed Price options for Low Rate Initial Production (LRIP) Lots I, II and III. The FY01 LRIP I option was exercised in Nov 2000, LRIP II option was exercised in Nov 2001 and LRIP III option was exercised in Nov 2002. The EMD contract and production options provide strong incentives for the contractor to control costs, achieve reliability performance and deliver on schedule.

The Assistant Secretary of the Navy (Research, Development and Acquisition) (ASN(RD&A)) approved the program to procure Lot 4 missiles in August 2003. A Firm-Fixed-Price (FFP) contract award is expected in January 2004. ASN(RD&A) will also make the Full-Rate Production (FRP) decision with advice from the Air Force Acquisition Executive subsequent to the successful completion of the associated exit criteria. FRP Lots 5 through 7 contracts will be FFP. Rewards or penalities are provided depending on RSC's performance relative to the Procurement Price Commitment Curve (PPCC). A review of RSC's Lots 4-7 proposals relative to the PPCC will be held prior to the award of these contracts.

CLASSIFICATION:

Fubilit D. 2 Coot Analysis (see	- 4)								DATE:		Fab		
Exhibit R-3 Cost Analysis (page APPROPRIATION/BUDGET ACTIVITIES	e 1)	Inc	ROGRAM EL	EMENIT			IDDO IECT NI	IMPED AND I	NA NAT		February 200)4	
RDT&E, N / BA-7	IY						PROJECT NU		NAME				
	Contract	Performing		ctical Air Interce		FY 03	E0457-AIM-9	FY 04		FY 05		1	I
	Method	Activity & Location		PY s	FY 03	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary H/w Dev (DEM-VAL)	C/CPIF	HUGHES, TUCSO	ON, AZ	6.685								6.685	6.685
Primary H/w Dev (DEM-VAL)	C/CPIF	RAYTHEON, BEI	DFORD, MA	8.587								8.587	8.587
PRIMARY HARDWARE (EMD)	C/CPIF	RAYTHEON, TU	CSON, AZ	120.434								120.434	278.694
EMD AWARD FEE	C/CPIF/A	RAYTHEON, TU	CSON, AZ	14.145								14.145	14.145
AIRCRAFT INTEGRATION	C/CPFF	BOEING, ST LOUIS	S, MO	24.397								24.397	24.397
Systems Engineering	WX	NAWCWD		33.413			0.403	11/03	0.363	10/04	0.871	35.050	
Systems Engineering	WX	NAWCAD		3.826							0.422	4.248	
MISC HW/SW (EFFORTS <\$1.0M)	VARIOUS	VARIOUS		7.765							0.435	8.200	
ANCILLARY HWD (LAU-7 Launcher)	C/CPFF	BOEING, ST LOUIS	S, MO	4.552								4.552	4.552
PRIMARY H/W-P3I Fuse Contract	TBD	TBD					1.278	12/03	2.907	12/04	15.169	19.354	
Award Fees												0.000	
ENGINEERING SERVICES	MIPR	EGLIN, AFB, FLA		1.810								1.810	
Subtotal Product Development				225.614	0.000		1.681		3.270		16.897	247.462	

Remarks:

EMD Contract Target Value includes both Navy and Air Force Funding. All other fields represent Navy share only. Total Prior Years - FY95 and prior under P.E. 0603715D. FY96 and out are funded under P.E. 0207161N.

CLASSIFICATION:

										DATE:				
Exhibit R-3 Cost Analysis (pag	ie 2)											February 200	04	
APPROPRIATION/BUDGET ACTIV	ITY		PROGRAM E	LEMENT				PROJECT N	UMBER AND	NAME				
RDT&E, N / BA-7			0207161N-Ta	ctical Air Inte	rcept			E0457-AIM-9	X					
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY Cos	03	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCWD		25.6	43	0.335	08/03	0.33	5 11/03	0.461	11/04	2.731	29.505	
Developmental Test & Evaluation	WX	NAWCAD		4.6	83							1.306	5.989	
Operational Testing	WX	OPTEVFOR				2.231	07/03			0.100	11/04		2.331	
Subtotal T&E				30.3	26	2.566		0.33	5	0.561		4.037	37.825	
Contractor Engineering Support	ID/IQ,T&M	Endmark, Arling	gton, Va	3.6	70								3.670	
Government Engineering Support	ID/IQ,T&M	MSTTm Arlingt	on, Va	0.9	86								0.986	
Program Management Support	ID/IQ,T&M	NSM, Arlington	, Va	1.4	40								1.440	
Travel	WX	PMA259 IPT		1.2	63	0.060	10/02	0.02	0 10/03	0.030	10/04		1.373	
Contractor Engineering Support	ID/IQ,T&M	Various		1.0	20	0.186	Various	0.20	0 Various	0.200	Various	0.876	2.482	
Subtotal Management				8.3	79	0.246		0.22	0	0.230		0.876	9.951	
Remarks:														
Total Cost				264.3	19	2.812		2.23	6	4.061		21.810	295.238	
Remarks:														

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE		F	ebrua	ary 20	04		
APPROPRIATION/BUDGET					-									R AND	NAM	Ε			-		PROJ			R AN	D NAN	1E	-					
RDT&E, N /	BA-7	<u> </u>			1				02071	61N-T	actical	AIM N	/lissile				1				E0457	'-AIM-9	9X		1							
Fiscal Year		20	002			20	03			20	04			20	05			20	06			200	07			20	08			200)9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones					First	Deploy	ioc			A																						
									N	AS III																						
EDM Completion								\triangle																								
AOTD P3I																																
Test & Evaluation Milestones																																
Developmental Test								ĺ		DT-III	L A							DT-IIIE] 3 I			DT-IIIC	;									
Operational Test]																			
)T-IIB								OT-III	A							OT-III	В								OT-III			
Production Milestones	LRIP I I Awa	ard																														
LRIPII Award FY 02	\triangle				I						Ц																					
LRIPIII Award FY 03 LRIP IV Award FY 04 FRP Award					LRIP I	II Awar			LRIP IV	Award	ſϝ			I I Award				<u> </u>	Ļ,													
Deliveries			LRIP I				LRIP II		ZAII IV	nwalu		FRP AW	VARD	, ward	*		LRIP IV		V		Lot V											

^{*} Revised APB is currently in signature cycle that will convert FRP to LRIP IV

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
					•		February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&BA-7	0207161N-Ta	ctical AIM Missi	les		E0457-AIM-9X	(
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Low-Rate Initial Production II Award	1Q							
Operational Testing (OT-IIB) (OPEVAL) Start*	2Q							
Low-Rate Initial Production I Delivery	3Q - 4Q	1Q - 3Q						
Operational Evaluation (OT-IIB) (OPEVAL) Complete		4Q						
Low-Rate Initial Production III Award		1Q						
IOC		4Q						
Full Rate Production (FRP) Decision (MSIII)			2Q					
Full Rate Production Award			4Q					
First Deployment		3Q						
Low-Rate Initial Production II Delivery		3Q - 4Q	1Q - 3Q					
Low-Rate Initial Production III Delivery			3Q - 4Q	1Q - 3Q				
Low-Rate Initial Production IV Delivery				3Q - 4Q	1Q - 3Q			
Full Rate Production Delivery					3Q - 4Q	1Q - 3Q		
*Original Start								
			-					-
	-							

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
						Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	CLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NA	AVY / BA-7			0207163N AMRAA	M		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	7.650	8.973	9.085	3.556	6.602	2.475	1.498
E0981 AMRAAM	7.650	8.973	9.085	3.556	6.602	2.475	1.498
	•	•					

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the AMRAAM into Navy aircraft with analysis of Navy unique applications, simulation capability development, aircraft missile integration tasks, pre-planned product improvement (P3I) efforts, and procurement of hardware to support Navy test and evaluation tasks.

R-1 SHOPPING LIST - Item No. 186

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification						_	DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEN	MENT NUMBER AN	D NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0207163N AM	RAAM			E0981 AMRAAM	I		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		7.650	8.973	9.085	3.556	6.602	2.475	1.49
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the AMRAAM into Navy aircraft with analysis of Navy unique applications, simulation capability development aircraft missile integration tasks, pre-planned product improvement (P3I) efforts, and procurement of hardware to support Navy test and evaluation tasks.

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CLASSIFICATION:

PROGRAM ELEMENT NUMBER AND NAME 0207163N AMRAAM FY 03 5.020	PROJECT NUMBER AND N E0981 AMRAAM	February 2004 AME FY 05	
0207163N AMRAAM FY 03	E0981 AMRAAM FY 04		
FY 03	FY 04	FY 05	
		FY 05	
		FY 05	
	6.350	5.203	
nphasis on Navy unique compatibility requirements 2.266 in FY05.	s and aircraft integration/compatibilit	requirements. Efforts in consonance with	ı USAF
FY 03	FY 04	FY 05	
2.331	2.273	2.332	
FY 03	FY 04	FY 05	
0.299	0.330	1.550	
	and integrating hardware and software into missile dvanced Data Link/Kinematics improvements to maphasis on Navy unique compatibility requirements .266 in FY05. FY 03 2.331 investigation and analysis of technologies that offer	and integrating hardware and software into missile test articles for use in ground and indivanced Data Link/Kinematics improvements to meet remaining P3I ORD requirement phasis on Navy unique compatibility requirements and aircraft integration/compatibility.266 in FY05. FY 03	FY 03 FY 04 FY 05 2.331 2.273 2.332 investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility of the second compatibility of the

R-1 SHOPPING LIST - Item No.

186

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
				February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND	NAME	
RDT&E, N / BA-7	0207163N AMRAAM		E0981 AMRAAM		
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	7.928	9.297	7.972		
Current BES/President's Budget	7.650	8.973	9.085		
Total Adjustments	-0.278	-0.324	1.113		
Summary of Adjustments					
Congressional program reductions					
Congressional undistributed reductions		-0.104			
Congressional rescissions					
SBIR/STTR Transfer	-0.185				
OSD					
Reprioritization		-0.220	1.135		
Economic Assumtions			-0.022		
Reprogrammings	-0.093				
Congressional increases					
Subtotal	-0.278	-0.324	1.113		

Schedule:

Phase 3: The P3I Phase 3 EMD program was re-baselined in April 2003 to reduce flight test execution risk and to establish a high confidence overall program execution schedule (all with approved program baseline commitments). In consonance with this re-baselined EMD completion the F/A-18 IOC also had to be adjusted to coincide with execution of the re-baselined DT and OT completion schedules. CNO concurred with the new IOC date.

Phase 4: Prior to awarding the Phase 4 P3I SDD contract (in January 2004) testing schedules were adjusted jointly by Air Force and Navy to reflect a higher confidence of successful program execution. This was done in collaboration with CNO, USAF ACC/Commander Operational Test and Evaluation Force, and USAF/AFOTEC.

Technical:

Not Applicable.

CLASSIFICATION: UNCLASSIFIED

									Febru	ary 2004
PPROPRIATION/BUDGE	T ACTIVITY	PROGRAM E	LEMENT NUM	BER AND NAN	ΛΕ	PROJECT NU	MBER AND N	AME		
DT&E, N /	BA-7	0207163N	AMRAAM			E0981 AMF	RAAM			
(U) D. OTHER PRO	OGRAM FUNDING SUMMARY:									
									То	Total
Line Item No. & N	<u>lame</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	<u>Cost</u>
WPN/P1#6 \$		49.962	37.368	33.914	82.522	100.602	85.090	87.015	104.104	1,711.800
Quantity		76	42	46	101	150	140	150	122	2,419
Related RDT&I	<u> </u>									
PE 0207130F	F-15									
PE 0204126N	F/A-18 Squadrons									
PE 0207163F	AMRAAM P3I									
PE 0207133F	F-16									
PE 0604239F	F-22									
PE 0207134F										

With the December 1997 merger of Raytheon and Hughes into the Raytheon Systems Company, the government implemented a new acquisition strategy labeled AMRAAM Vision 2000. The Vision 2000 strategy capitalizes on a multi-year hardware pricing agreement between Raytheon and the government under the auspices of the Department of Justice which supported the Raytheon/Hughes merger and a shift in government business practices toward a more "commercial" business arrangement. The lot 16 procurement contract award again includes an overarching price control strategy with Total System Performance Responsibility (TSPR) with the prime contractor, Raytheon Defense Systems Segment in Tucson, Arizona. The purchase includes missiles, warranties, spares, missile performance tracking, and reliability tests. Raytheon assumes responsibility for all specifications below missile performance. Also included in the Lot 16 contract are pre-priced options for Lots 17 thru 21 (FY2003 thru FY2007).

R-1 SHOPPING LIST - Item No. 186

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 5 of 9)

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	e 1)									February 200)4	
APPROPRIATION/BUDGET ACTIVI		PROGRAM E	LEMENT			PROJECT NU	JMBER AND N	NAME		-		
RDT&E, N / BA-7		0207163N	AMRAAM			E0981 AMF	RAAM					
Cost Categories	Contract	· ·	Total		FY 03		FY 04		FY 05			
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	SS/CPAF	Raytheon, Tucson AZ	26.090	4.168	11/02	5.303	12/03	4.326	11/04	1.857	41.744	41.744
Primary Hardware Development	WX	NAWC-AD Patuxent River M	ID .	0.020	11/02	0.020	11/03	0.021	11/04		0.061	
Primary Hardware Development	WX	NAWC-WD Pt Mugu CA		0.073	11/02	0.070	11/03	0.072	11/04		0.215	5
Primary Hardware Development	WX	NSWC Dahlgren VA		0.020	11/02	0.021	11/03	0.021	11/04		0.062	2
Award Fees	SS/CPAF	Raytheon, Tucson AZ	3.095	0.739	11/02	0.936	12/03	0.763	11/04	0.328	5.861	5.861
Prior Years Development/Acft Integ	Various	Various	19.650								19.650)
Subtotal Product Development			48.835	5.020)	6.350)	5.203		2.185	67.593	3

Remarks: Percentage of award fees actually awarded in past award fee periods is 15%.

Development Support	SS/FFP	JHU/APL Laurel MD		0.284	01/03	0.384	01/04	0.390	01/05	0.600	1.658	1.658
Development Support	RX	NSMA VA		1.131	12/02	0.900	12/03	0.926	12/04	1.050	4.007	
Development Support	WX	NAWC-WD Pt Mugu CA	8.577	0.040	10/02	0.050	10/03	0.050	10/04		8.717	
Subtotal Support			8.577	1.455		1.334		1.366		1.650	14.382	

Remarks:

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LIST - ILEITING. 100

Exhibit R-3, Project Cost Analysis (Exhibit R-3, page 6 of 9)

CLASSIFICATION:

												IDATE				
Exhibit R-3 Cost Analysis (pa	ao 3)											DATE:		February 20	0.4	
APPROPRIATION/BUDGET ACTIV	ge ∠) /ITY		PROGRAM E	IEMENI	г				IPRO IFC	T NI I	MBER AND N	IAME		rebluary 20	04	
RDT&E, N / BA-7	,,,,			AMRAAN					E0981			o uvic				
Cost Categories	Contract	Performing	0207 10014	Total	**			FY 03	20001		FY 04		FY 05			
	Method	Activity &		PY s		FY 03		Award	FY 04		Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost		Cost		Date	Cost		Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	WX	NAWC WD P	t Mugu CA		0.956		0.168	11/02	C	0.350	11/03	0.35	11/04	4.02	5.849	
Developmental Test & Evaluation	MIPR	Raytheon, Tu	icson AZ				0.131	12/02							0.131	
Developmental Test & Evaluation	WX	NAWC WD P	t Mugu CA									1.20	11/04	4.100	5.300	
Subtotal T&E					0.956		0.299		C	.350		1.55)	8.12	11.280	
Program Management Support	WX	NAWC-AD Pa	atuxent River N	1	2.188		0.676	10/02		0.680	10/03	0.70	3 10/04	1.37	5.624	
Travel	MIPR	PMA-259 Egl		_	0.950		0.200	10/02		0.259	10/03	0.26		0.79		
		1														
Subtotal Management					3.138		0.876		C	0.939		0.96	ô	2.17	8.090	
Remarks:																
Total Cost					61.506		7.650			8.973		9.08	5	14.13	1 101.345	
Remarks:																

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE		F	ebrua	ary 20	04		
APPROPRIATION/BUDGET RDT&E, N /	F ACTIV BA- 7								PRO0 02071				UMBE	R AND	NAM	E					PROJ E0981		NUMBE MRAAM		D NAM	ΊE			_			
Fiscal Year			002			20	03		02071	20		AAIVI		20	05			20	06		L090	20		<u>''</u>		20	08			200	09	
1,000,100.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Pre-Planned Product Improvement (P3I) Phase 3																																
EMD Completion																																
Test Readiness Reviews					A		4			Δ																						
Development Test Flight Test	Start (Captive	Flight		A	Launc	nes		M	\triangle																						
IOC C7																			<u></u>	LAWS												
Pre-Planned Product Improvement (P3I) Phase 4										<u> </u>												^										
SDD SYSTEM DT/OT Start									Start						Captiv	e		\ light				Comp		OT Co	mplete		ollow-c	n				-
IOC															DT		DT				OT Sta (E/F)	art		(E/F)	F/A18				F/A18	C/D		
Phase 4 SWUP																				 Start								I /\	omplete			
Production Milestones																															\	
Contract awards			Lot 16			^	Lot 17		_	Lot 18					Lot 19			_	Lot 20			_	Lot 21				Lot 22				__\ Lot 23	
Deliveries	24	55	12	8	16	16	23	0	2	19	24	16	18	18	20	17	9	10	12	11	12	12	12	17	27	25	24	28	36	37	39	38

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
							February 200)4
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT			PROJECT NUM	MBER AND NAM	1E	
RDT&BA-7	0207163N A	MRAAM			E0981 AMR	AAM		
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
EMD Completion Phase 3			2nd Qtr					
First P3I Phase 3 Delivery			1st Qtr					
Test Readiness Reviews		1st,2nd,4th Qtr	1st,2nd Qtr					
DevelopmentTest/Flight Test	3rd Qtr	1st,2nd,4th Qtr	1st ,2nd Qtr					
F/A-18 IOC of AIM120C7				2nd Qtr				
F-22 IOC of AIM120C7					1st Qtr			
CLAWS IOC of AIM120C7					3rd Qtr			
SDD Start Phase 4			2nd Qtr					
SDD Completion Phase 4						2nd Qtr		
Phase 4 SWUP Start					4th Qtr			
Phase 4 SWUP Complete							4th Qtr	
System DT (Captive) Start				3rd Qtr				
System DT (Free flight) Start					1st Qtr			
System OT (F/A-18 E/F) Start						1st Qtr		
System OT (F/A-18 E/F) Complete						4th Qtr		
IOC F/A18 E/F							1st Qtr	
IOC F/A18 C/D								1st Qtr
P3I Follow-on Efforts						2nd-4th Qtr	1st-4th Qtr	1st-4th Qtr
Production Lot 16 Contract Award	3rd Qtr							
Production Lot 17 Contract Award		2nd Qtr						
Production Lot 18 Contract Award			2nd Qtr					
Production Lot 19 Contract Award				2nd Qtr				
Production Lot 20 Contract Award					2nd Qtr			
Production Lot 21 Contract Award						2nd Qtr		
Production Lot 22 Contract Award							2nd Qtr	
Production Lot 23 Contract Award								2nd Qtr
					1			
					1	1		

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE:		
_									February 2004	
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NO	MENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUAT	ION, NAVY	1	BA-7			0303109N Sa	atellite Commu	nications (Spa	ce)	
	Prior									Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Total PE Cost	280.800	110.463	267.665	573.092	765.126	834.840	667.679	295.224	Continuing	Continuing
0728 EHF SATCOM Terminals	114.515	37.177	57.774	50.345	79.663	67.244	26.912	10.600	Continuing	Continuing
0731 Fleet Satellite Comm	98.076	0.633	0.578	0.644	1.493	1.775	1.812	1.848	Continuing	Continuing
2472 Mobile User Segment	68.209	66.979	195.019	503.651	621.268	661.558	561.584	209.618	161.114	3,049.000
9122 Transformational Communications	0.000	5.674	12.564	18.452	62.702	104.263	77.371	73.158	Continuing	Continuing
(NOTE: Advanced Wideband name changed to Transformational Communications (TC))										0.000
9429 Covert Communications	0.000	0.000	1.730	0.000	0.000	0.000	0.000	0.000		1.730
Quantity of RDT&E Articles			8		25	13				46

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) The Navy Extremely High Frequency (EHF) Satellite Communications (SATCOM) Program (NESP) provides for the development and production of terminals to provide anti-jam, low probability of intercept/detection communications capability for Command and Control of the Fleet. NESP operates with Fleet Satellite (FLTSAT) EHF Packages (FEP), Ultra High Frequency (UHF) Follow On (UFO), and Milstar I/II Satellite Packages. The Milstar program is comprised of satellites, control stations, and aircraft, ship, and ground terminals to provide assured worldwide, secure, anti-jam, survivable communications for the National Command Authority, CINCs, and operational commanders.
- (U) The Advanced EHF (AEHF) Operational Requirements Document (ORD) was validated by the Joint Requirements Oversight Council (JROC) on 22 Mar 1999. The Navy AEHF Multiband Terminal (NMT) is the follow-on satellite communications system that will provide worldwide, secure, survivable satellite communications to U.S. and International Partners strategic and tactical forces during all levels of conflict. The NMT Program is the required Navy component to the Advanced EHF Program for enhancing protected and survivable satellite communications to Naval forces. The NMT system provides an increase in single service capability from 1.5 Mbps to 8 Mbps, increases the number of coverage areas and retains A/J, LPI protection characteristics. It is compatible with today's Navy LDR/MDR terminals and will sustain the MILSATCOM architecture by providing connectivity across the spectrum of mission areas, to include land, air and naval warfare, special operations, strategic defense, theater missile defense, and space operations and intelligence. The NMT system will replenish and improve on the capabilities of the Milstar system. The new system will equip the warfighters with the assured, jam resistant, secure communications as described in the ORD for the joint NMT Satellite Communications System. The NMT system will provide crosslinks within the NMT constellation as well as between NMT satellites and Milstar satellites in the backwards compatible mode. Mission requirements specific to Navy operations, including threat levels and scenarios, are contained in the NMT ORD.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:	
		February 2004	
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0303109N Satellite Communications (Space)		

- (U) The Sensitive Compartmented Information (SCI) Networks implements the Integrated Special Intelligence Communications portion of the Automated Digital Network System (ADNS) architecture to provide services for transfer of Special Intelligence (SI) information between ships and shore activities in support of joint and combined operations. SCI Networks has been combined into the SI communications architecture and will provide real time indications and warning support to joint and component commanders through reliable high-speed transfer of sensor data and intelligence information. Enhanced interoperability with other services, agencies, and allies will permit a level of integration of SI operations not achievable with current systems.
- (U) The Joint Ultra High Frequency (UHF) Military Satellite Communications Network Integrated Control System (JMINI) will provide dynamic centralized control of joint 5kHz and 25kHz UHF military satellite communications (MILSATCOM) voice and data resource (channels and Time Division Multiple Access (TDMA)) time slots via a globally integrated system of four control stations to be located at each of the three Naval Computer and Telecommunications Area Master Station (NCTAMS) sites plus Naval Computer and Telecommunications Station (NCTS) Guam.
- (U) Joint Tactical Radio System-Maritime (JTRS-M) In FY 2003 JTRS-M was transfered to Program Element 0604280N, Project Number X3073.
- (U) The Mobile User Objective System (MUOS) program provides for the development of the next generation DoD advanced narrowband communications satellite constellation. The current UHF Follow-On (UFO) constellation is expected to degrade below acceptable availability parameters in 2010. The MUOS program builds on state-of-the-art technologies and best commercial practices to develop a totally responsive joint warfighter system. In addition, new user requirements have been identified and advanced concepts developed to incorporate new programs and technologies which address the significant growth in requirements for military narrowband communications, as required per the approved joint interest MUOS Operational Requirements Document (ORD).
- (U) The Navy Transformational Communications (TC) program (formerly named Advanced Wideband System) provides for the development and production of terminals to provide high capacity reliable, low probability of intercept (LPI), Anti-Jam (AJ), communications capability to the fleet. Terminals will support multiple data streams over Q/Ka-band, Ka-band, and X-band. The terminals will also support mesh networking without the need for gateway terminals.
- (U) Covert communications is a FY04 Congressional add.
- (U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for the upgrade of an existing, operational system.

R-1 SHOPPING LIST - Item No. 190

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 2 of 44)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE:						
									February 2004			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME P					PROJECT NU	JECT NUMBER AND NAME					
RDT&E, N / BA-7	0303109N - Satellite Communications (Space)				0728 EHF SATCOM Terminals							
	Prior										Total	
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program	
Project Cost	114.515	37.177	57.774	50.345	79.663	67.244	26.912	10.600		Continuing	Continuing	
RDT&E Articles Qty			8		20						28	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) Navy Extremely High Frequency (EHF) Satellite Communications (SATCOM) Program provides for the development and production of terminals to provide anti-jam (A/J), low probability of intercept (LPI)/detection communications capability for Command and Control of the fleet. The terminals will provide physical and electromagnetically survivable, worldwide communications in the current and projected electromagnetic and nuclear threat environments. Navy EHF terminals are interoperable with Army and Air Force terminals and will operate with Milstar as well as EHF packages on-board Ultra High Frequency (UHF) Follow-On (UFO) Satellites 4 through 11 and FLTSATCOM Satellites 7 and 8. The increased capability provided by EHF terminals is accomplished by use of the wider bandwidths available at extremely high frequencies, narrow antenna bandwidths, spread spectrum techniques, on-board satellite processing, and advanced signal processing technology. The EHF Medium Data Rate (MDR) upgrade program is complete and provides increased bandwidth by providing higher data rates [4.8 kilobits per second (Kbps) 1.544 megabits per second (Mbps)] when communicating with Milstar II satellites.
- (U) The Navy EHF Communications Controller (NECC) provides automated, netted tactical data information exchange over jam resistant EHF Low Data Rate (LDR) satellite links. The NECC will provide for load and channel sharing, resource management, communications management and planning, network control and monitoring, and packet switching.
- (U) The EHF Time Division Multiple Access (TDMA) Interface Processor (TIP) will support wide area network (WAN) implementation through reliable, efficient, netted data exchange using MDR services. The MDR TIP combines support for general-purpose internet protocol (IP) data delivery and high speed, rapid delivery of tactical data within a single system architecture. TIP supports single-beam, multi-beam, and multi-satellite networks.
- (U) The Navy Super High Frequency (SHF) Satellite Communications (SATCOM) program provides for the development and production of terminals to provide high capacity, reliable, low probability of intercept (LPI), secure, and jam resistant communications to Joint and Allied Forces. SHF SATCOM operates with the Defense Satellite Communication System (DSCS), DSCS Service Life Extension Program (SLEP), Wideband Gapfiller Satellite (WGS) System, and the Advanced Wideband System (AWS) satellites. The SHF SATCOM system is comprised of satellites, ground stations, and aircraft, ship and ground terminals to provide assured worldwide access to services such as Defense Information Systems Network (DISN), Global Command and Control System (GCCS), Plain Old Telephone Service (POTS), Secure Telephone Unit III (STU III) Secure Communications Service, Internet Protocol Routed Networks, and other digital services. The satellite systems SHF SATCOM operate over are transitioning from old technology DSCS III satellites to the more advanced DSCS SLEP and WGS satellites beginning in FY 1999 and continuing through FY 2005. The population of Navy SHF SATCOM terminals is also growing at a rapid pace. In order to meet the communication requirements of Navy users, advanced communication technologies for SHF SATCOM terminals must be developed to take full advantage of the capabilities of the new satellites in an efficient manner.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	<u> </u>
RDT&E, N / BA-7 0303	109N - Satellite Communications (Space)	0728 EHF SATCOM Termina	als
70000	Toor Catomic Communications (Opaso)	0720 2111 0711 00111 1011111111	
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTI	FICATION (continued):		
tactical forces during all levels of conflict. The NMT Program system provides an increase in single service capability from terminals and will sustain the MILSATCOM architecture by p defense, theater missile defense, and space operations and i jam resistant, secure communications as described in the 0 satellites and Milstar satellites in the backwards compatible m (U) The Challenge Athena Program required the following er terminal operator was able to determine if the buffer is clos Interleave Option for MIL-STD-188-165 Modes, that allowed protection; (c) Higher Data Rates increased the maximum pro 1030B(V)9 modem allowed the customer to achieve its near	on satellite communications system that will provide worldwid is the required Navy component to the Advanced EHF Progra 1.5 Mbps to 8 Mbps, increases the number of coverage area roviding connectivity across the spectrum of mission areas, to intelligence. The NMT system will replenish and improve on the DRD for the joint NMT Satellite Communications System. Thiode. Mission requirements specific to Navy operations, including the control of	m for enhancing protected and sur is and retains A/J, LPI protection of include land, air and naval warfare a capabilities of the Milstar system. In MIT system will provide crossling threat levels and scenarios, are a "gauge" on the GUI that indicates can then better plan when to re-cepandspreading required for framing with QPSK (Quadrature Phase Shifts; and (d) Shore Handover Error B	rvivable satellite communications to Naval forces. The NMT haracteristics. It is compatible with today's Navy LDR/MDR e, special operations, strategic nuclear operations, strategic The new system will equip the warfighters with the assured, nks within the NMT constellation as well as between NMT contained in the NMT ORD. s the current level of fill of the satellite Doppler buffer. The enter it without losing critical communications; (b) Channel g and Reed-Solomon FEC that provides handover and EMI t Keying) modulation. Higher available data rates in the MD-Burst. The MD-1030B(V)9 modem maintained its Bit Count

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME
RDT&E, N / BA-7	0303109N - Satellite Communications (Space)	0728 EHF SATCOM Termina	nals

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Milstar on Orbit test and checkout	0.936		
RDT&E Articles Quantity			

(U) FY03: Participated in Milstar on Orbit test and checkout of Milstar flight 5 and 6 (MST 8000). Continued to participate in joint interoperability communications with Army MDR Secure Mobile Antijam Reliable Tactical Terminal (SMART-T). Conducted NESP DT/OT testing.

	FY 03	FY 04	FY 05
AN/WSC-6 WGS Terminal Upgrades	6.589	0.112	0.650
RDT&E Articles Quantity			

- (U) FY03: Continued development of an advanced modem system and AN/WSC-6 Wideband Gapfiller system terminal upgrades and conduct follow on test and evaluation.
- (U) FY04: Developmental testing of advanced modem system and terminal upgrades.
- (U) FY05: Operational testing of advanced modem system and terminal upgrades.

	FY 03	FY 04	FY 05
TIP/NECC modifications	0.960		
RDT&E Articles Quantity			

(U) FY03: Conducted TIP/NECC Increment 3 development modifications.

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EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME
RDT&E, N / BA-7	0303109N - Satellite Communications (Space)	0728 EHF SATCOM Termin	nals

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
NMT Development, First Phase	26.832	56.732	48.945
RDT&E Articles Quantity		8	

- (U) First phase of NMT development for System Design and Development (SDD) for ship, shore and submarine platforms.
- (U) **FY03:** Continued engineering analysis and development of terminal and satellite simulators. Began development of a high-level test plan to ensure requirements are decomposed and the key modeling and analysis demonstrates acquisition, tracking, communications antenna checkout, antenna handover, motion, anti-jam, low probability of intercept, low probability of detection, link budgets, multiband/multimode feed/modem development, etc. Conducted source selection for development of NMT terminal hardware and software.
- (U) **FY04**: Complete development of satellite simulators. Award contract for development of NMT prototype terminal hardware and software. Hardware includes operator interface, Terminal Control Processor, Modem Control Processor, Antenna Pointing Unit and associated firmware. Software includes access control protocols, terminal Built In Testing (BIT)/BITE Adaptation Data Recorder, and LPI software. Continue development of high-level test plan. Begin design and development of 8 NMT prototypes (four ship, two sub, two shore).
- (U) **FY05**: Continue NMT prototype terminal hardware and software development and development of high-level test plan. Continue design and development of 8 NMT prototypes started in FY04.

	FY 03	FY 04	FY 05
EHF Polar	1.860	0.930	0.750
RDT&E Articles Quantity			

- (U) EHF POLAR / UFO-11 software development and systems engineering.
- (U) FY03 Conducted ground segment end-to-end testing, security interface system testing, development of terminal software modifications.
- (U) FY04 FY05 Continue development of Tracking, Telemetry and Control subsystems and end-to-end system testing for Polar 2/3 system.

CLASSIFICATION:

					DATE:	Fabruary 2004	
PRIATION/BUDGET ACTIVITY	PROGRAM ELEMEN	T NUMBER	AND NAME		PROJECT NUMBER AND	NAME	February 2004
E, N / BA-7					0728 EHF SATCOM Termin		
<u> </u>	000010014 - Oatemite	Communicati	ons (opace)		0720 ETH GATGOW TEHNIN	iiais	
J) C. PROGRAM CHANGE SUMMARY:							
(U) Funding:		FY 2003	FY 2004	FY 2005			
FY 04 Presidents Budget		47.445	50.449	56.509			
FY 05 Presidents Budget		37.177	57.774	50.345			
Total Adjustments		-10.268	7.325	-6.164	-		
Summary of Adjustments							
Miscellaneous Navy Adjustments Issue 68849 FY 2003 Update		-1.274					
Issue 66556 FY03 SBIR		-1.274 -0.974					
Issue 65934 FY03 Fed Tech Transfer		-0.974					
Issue 66561 BTR MUOS / AEHF Trans	fer	-8.000					
Issue 66778 BTR MUOS / AEHF Trans		0.000	8.000				
Issue 68041 Section 8094 Managemer			-0.154				
Issue 68060 Sec. 8029: FFRDC Redu	•		-0.024				
Issue 68066 Sec. 8126: Efficiencies/F			-0.497				
Issue 69492 PBD 604 Inflation				-0.134			
Issue 69512 PBD 604 non purchase inf	lation			-0.029			
Issue 19013 Spares Special Initiatives	FY-05			-0.506			
Issue 67689 Manpower				-0.094			
Issue 67652 AEHF Re-Phasing				-5.400			
Issue 67769 NWCF Rates - NSWC Ra	tes			-0.001			
Subtotal		-10.268	7.325	-6.164	-		
Subtotal (U) Schedule:		-10.268	7.325	-6.164			
	- delicities Otanton December	(ACD)		0000 !!!	ACD Hadata was seen	1	
SDD contract awarded 10/03. Required Ac	quisition Strategy Report	(ASR) was a	pproved June	2002, and th	ne ASR Update was approve	ed July 2003.	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E	Project Justification	DATE:										
										Februa	ary 2004	
APPROPRIATION/BUDGE	T ACTIVITY	PROGRAM EI	LEMENT NUV	IBER AND NAN	1E	PROJECT NU	MBER AND NA	ME				
RDT&E, N /	BA-7		0303109N - S	atellite Commu	unications (Spa	ce)	0728 EHF SA	TCOM Terminal	S			
(U) D. OTHER PRO	GRAM FUNDING SUMMARY	:								To	Total	
Line Item No. & Na 321500 - OPN Ship		FY 2003 50.870	<u>FY 2004</u> 74.921	FY 2005 38.896	FY 2006 23.700	FY 2007 22.483	<u>FY 2008</u> 85.112	<u>FY 2009</u> 111.095	•	Complete Continuing	Cost Continuing	
(U) Related RDT8 (U) PE 0303 (U) PE 0303	minal installation costs. kE: 603F, Milstar 601F, Air Force Satellite Com 142A, Army Extremely High F		mmunications Te	erminal								
(U) E. ACQUISITION S	STRATEGY:											
quarter of FY 20	and Terminal (NMT) Concept 304 for the development and on and procurement of twenty End	demonstration	of four prototyp	e terminals pe	•	•		` ,		•		

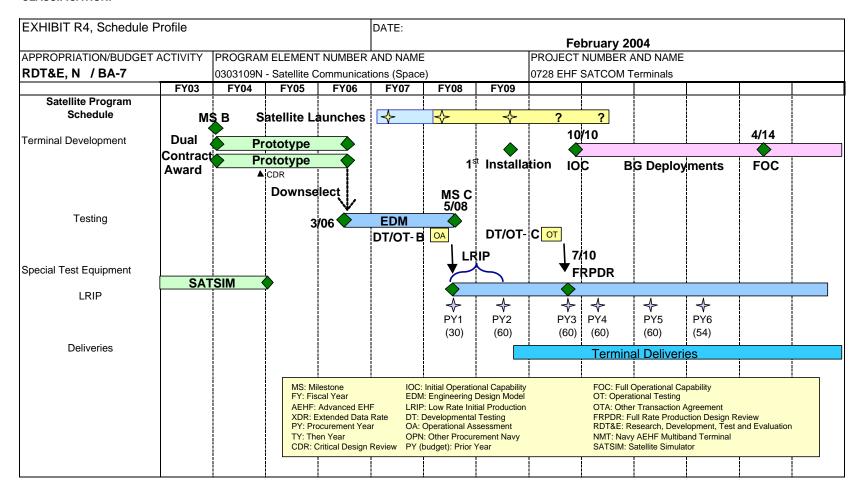
CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pa										February 200	04	
APPROPRIATION/BUDGET ACTIV	VITY	PROGRAM E	LEMENT			PROJECT N	JMBER AND N	NAME				
RDT&E, N / BA-7			atellite Commu	nications (Spa		0728 EHF SA	TCOM Termin	als				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	Various	Various	Cost	11.809		47.915	+	41.595		· ·		
<u>'</u>	C/FFP	Harris		5.797		0.112	1	0.650	10/04	Continuing Continuing		1
Hardware Development Hardware Development	WR	SSC SD (San Diego)		0.456		0.112		0.650	10/04	Continuing	i	1
Ancillary Hardware Development	CPAF	Raytheon (Marlborogh, MA)	55.396			0.021	10/03	0.442	10/04	Continuing	<u> </u>	1
Software Development	WR	NUWC (Newport, RI)	5.438			0.930	11/03	0.750	10/04	Continuing	·	1
Systems Engineering	WR	SSC SD (San Diego)	13.241	0.693		0.235		0.730	10/04	Continuing	·	·
Systems Engineering	WR	NUWC (Newport, RI)	10.241	2.522		1.964		1.555	10/04	Continuing	<u> </u>	1
Systems Engineering	Various	Various	8.161	0.997		1.201		0.840	10/04	Continuing		1
GFE	Various	Various		6.458		1.700		1.000	11/04	Continuing	· · · · · · · · · · · · · · · · · · ·	1
					,	1	1,7,55		,			
Subtotal Product Development			82.236	32.526	,	54.678	3	47.053		Continuing	Continuing	
Development Support	WR	SSC SD (San Diego, CA)	7.015	0.245	10/02	0.244	10/03	0.238	10/04	Continuing	Continuing	j
Integrated Logistics Support	T&M	PMTO		0.238	10/02	0.348	10/03	0.321	10/04	Continuing	Continuing	i
Studies & Analysis	WR	NAVSEA	5.116	0.210	04/03	0.210	10/03			Continuing	Continuing	i
												+
Subtotal Support			12.131	0.693	3	0.802	2	0.559		Continuing	Continuing	
Remarks:												

CLASSIFICATION:

										DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)											February 200)4	
APPROPRIATION/BUDGET ACTIVI	TY		PROGRAM EI					PROJECT N						
RDT&E, N / BA-7	1_	т=	0303109N - S		munic	ations (Spac		0728 EHF SA	TCOM Termin	nals	T		ı	ı
Cost Categories	Contract Method	Performing Activity &		Total PY s	FY	7 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	Location		Cost	Co		Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	WR	Various		9.3	02	0.820	10/02	0.008	10/03	0.689	10/04	Continuing	Continuing	
Operational Test & Evaluation	WR	Various				0.556	10/02					Continuing	Continuing	
Subtotal T&E				9.:	302	1.376		0.008		0.689		Continuing	Continuing	
Contractor Engineering Support	CPAF	PMTO				1.549	10/02	0.931	10/03	0.993	10/04	Continuing	Continuing	
Program Management Support	Various	Various				0.981	10/02	1.240	10/03	0.951	10/04	Continuing	Continuing	
Travel		Gov't Travel				0.052	10/02	0.115	10/03	0.100	10/04	Continuing	Continuing	
Subtotal Management				0.	000	2.582		2.286		2.044		Continuing	Continuing	
Remarks:														
Total Cost				103.	669	37.177		57.774		50.345		Continuing	Continuing	
Remarks:														

CLASSIFICATION:



Note:

Refects development of 20 EDMs

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE:		
					F	ebruary 200	4
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELE	EMENT		PROJECT NUM	BER AND NAM	E	
RDT&E, N / BA-7	0303109N - Sat	ellite Communic	ations (Space)	0728 EHF SAT	COM Terminals		
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone B (MSB)		1Q					
Contract Award		1Q					
Prototype Complete				2Q			
Engineering Development Model (EDM) Begins (Quantity = 20)				3Q			
Developmental Testing (MS B)					4Q		
Operational Testing (Platform Operational Assessment) (MS B)						1Q	
Milestone C (MS C)						3Q	
Start Low-Rate Initial Production I (LRIP I)						3Q	
Start Low-Rate Initial Production II							1Q
Low-Rate Initial Production I Delivery							3Q
Developmental Testing (MS C)							4Q

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2004	
PROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NOTAE, N / BA-7 PE: 0303109N Satellite Communications (Space) 0731 Fleet S								AME			
RDT&E, N / BA-7	PE: 0303109N	Satellite Cor	mmunications (Space)		0731 Fleet Sat	ellite Comm				
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program
Project Cost	98.076	0.633	0.578	0.644	1.493	1.775	1.812	1.848		Continuing	Continuing
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) The Sensitive Compartmented Information (SCI) Networks implements the Integrated Special Intelligence Communications portion of the Automated Digital Network System (ADNS) architecture to provide services for transfer of Special Intelligence (SI) information between ships and shore activities in support of joint and combined operations. SCI Networks has been combined into the SI communications architecture and will provide real time indications and warning support to joint and component commanders through reliable high-speed transfer of sensor data and intelligence information. Enhanced interoperability with other services, agencies, and allies will permit a level of integration of SI operations not achievable with current systems.
- (U) The Joint Ultra High Frequency (UHF) Military Satellite Communications Network Integrated Control System (JMINI) will provide dynamic centralized control of joint 5kHz and 25kHz UHF military satellite communications (MILSATCOM) voice and data resource (channels and Time Division Multiple Access (TDMA)) time slots via a globally integrated system of four control stations to be located at each of the three Naval Computer and Telecommunications Area Master Station (NCTAMS) sites plus Naval Computer and Telecommunications Station (NCTS) Guam.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELE	MENT NUMBER AND NAME	PROJECT NUMBER AND N	AME	
RDT&E, N /BA-7	PE: 0303109N	Satellite Communications (Space)	0731 Fleet Satellite Comm		

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
SCI Networks	0.633	0.578	0.644

Continued integration and implementation of SCI Networks and associated Special Intelligence Communication capabilities. Development and testing of submarine upgrades, developmental testing of surface upgrades (DTIIIA), Functional Configuration Audit (FCA) and Physical Configuration Audit (PCA) of SCI Networks were accomplished during FY03. Continue DT&E and OT&E of submarine upgrade (DTIID and OTIIB), design, integration and testing (DTIIIB, DTIIIC, OTIIIA) of software and hardware for sub, surface, and shore. DTIID and OTIIB will support MSIIIB. DTIIIB, DTIIIC, and OTIIIA will support MS-IIIC.

CLASSIFICATION:

PROPRIATIONBUDGET ACTIVITY	EXHIBIT R-2a, RDT&E Project Justification					DATE:	
(U) C. PROGRAM CHANGE SUMMARY: (U) Funding: (V) Froderist Budget: (V) Fresident's Budget: (V							February 2004
(U) C. PROGRAM CHANGE SUMMARY: (U) Funding: FY04 President's Budget: 0.653 0.555 1.468 FY05 President's Budget: 0.633 0.578 0.644 Total Adjustments Summary of Adjustments Issue 68848 ISSUE 68848 ISSUE 68841 ISSUE 68841 ISSUE 68841 ISSUE 68842 ISSUE 88842 ISSUE 88842 ISSUE 88842 ISSUE 88842 ISSUE 88842 ISSUE 88842 ISSUE 88842 ISSUE 88842 ISSUE 88842 ISSUE 88842 ISSUE 88842 ISSUE 68842 IS					PROJECT NUMBE	R AND NAME	
(U) Funding: FY 2003 FY 2004 FY 2005 FY04 President's Budget: 0.653 0.585 1.468 FY05 President's Budget: 0.633 0.578 0.644 Total Adjustments -0.020 -0.007 -0.824 Summary of Adjustments	RDT&E, N / BA-7	PE: 0303109N Satellite Co	mmunications (Space	e) (731 Fleet Satellite	Comm	
FY04 President's Budget:	(U) C. PROGRAM CHANGE SUMMARY:						
FY05 President's Budget: Total Adjustments Summary of Adjustments Issue 68849 FY2003 Update Issue 68041 Sec 8094 Mgmt Improvements Issue 68041 Sec 8094 Mgmt Improvements Issue 68049 PBD 604 Inflation Issue 69492 PBD 604 Inflation Issue 19012 Technical Issue: JMINI (U) Schedule: OT-IIIA for surface ships in 4Q/04 and OT-IIB for submarines in 1Q/04. (U) Technical: Not Applicable							
Total Adjustments							
Summary of Adjustments Issue 68849 FY2003 Update Summary of Adjustments Summary of Adj					-0.824		
Issue 68849 FY2003 Update	,						
Issue 68061 Sec 8044 Mgmt Improvements	Summary of Adjustments						
Issue 68066 Sec 812E Efficiencies/Revised Econ Assumption Issue 69492 PBD 604 Inflation -0.002 Issue 19012 Technical Issue: JMINI -0.020 -0.007 -0.824 (U) Schedule: OT-IIIA for surface ships in 4Q/04 and OT-IIB for submarines in 1Q/04. (U) Technical: Not Applicable			-0.020				
Issue 69492 PBD 604 Inflation	Issue 68041 Sec 8094 Mgmt I	nprovements					
Issue 19012 Technical Issue: JMINI OT-IIIA for surface ships in 4Q/04 and OT-IIB for submarines in 1Q/04. (U) Technical: Not Applicable		cies/Revised Econ Assumption		-0.005	-0.003		
(U) Schedule: OT-IIIA for surface ships in 4Q/04 and OT-IIB for submarines in 1Q/04. (U) Technical: Not Applicable		JMINI					
(U) Schedule: OT-IIIA for surface ships in 4Q/04 and OT-IIB for submarines in 1Q/04. (U) Technical: Not Applicable							
OT-IIIA for surface ships in 4Q/04 and OT-IIB for submarines in 1Q/04. (U) Technical: Not Applicable	Subtotal		-0.020	-0.007	-0.824		
OT-IIIA for surface ships in 4Q/04 and OT-IIB for submarines in 1Q/04. (U) Technical: Not Applicable							
OT-IIIA for surface ships in 4Q/04 and OT-IIB for submarines in 1Q/04. (U) Technical: Not Applicable							
(U) Technical: Not Applicable	(U) Schedule:						
Not Applicable	OT-IIIA for surface ships in 4Q/04 and C	T-IIB for submarines in 1Q/04.					
Not Applicable							
Not Applicable							
Not Applicable							
Not Applicable							
Not Applicable	(U) Technical:						
	Not Applicable						

CLASSIFICATION:

ΛΙΙΙ ΟΙΙ Κ- Ζα, ΚΟΙ ά	E Project Justification							DATE:		
									Februar	y 2004
PPROPRIATION/BUDGI	ET ACTIVITY	PROGRAM ELE	MENT NUMBE	ER AND NAME		PROJECT NUME	BER AND NA	ME		
DT&E, N /	BA-7	PE: 0303109N	Satellite Com	munications (S	pace)	0731 Fleet Satell	ite Comm			
(U) D. OTHER PRO	OGRAM FUNDING SUMMARY:									
									То	Total
Line Item No. & N		FY 2003	FY 2004	FY 2005	FY 2006		FY 2008	FY 2009	<u>Complete</u>	Cost
	Auto - SCI NETWORKS*	15.536	5,346	814	4,496	4,584	4,530	4,607	Continuing	Continuing
	M - JMINI-NMS	5.416	9.358	7.070	0.000	0.000	0.000	0.000	Continuing	21.844
*Includes termin	nal installation costs.									
(U) E. ACQUISITION	N STRATEGY:									
SCI-NETWOR	RKS: Program is utilizing Cost Plus Fi	xed Fee contract vehicle.								
	Program is utilizing Cost Plus Fixed F									

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pa APPROPRIATION/BUDGET ACTIV	ge 1)									February 200)4	
	VITY	PROGRAM	ELEMENT			PROJECT NU	JMBER AND	NAME				
RDT&E, N / BA-7	_		9N Satellite Co	mmunications		0731 Fleet Sa			1			
Cost Categories	Contract		Total	EV 00	FY 03	F)/ 04	FY 04	E)/ 05	FY 05	0	T-1-1	T () / - l
	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete		Target Value of Contract
Con	FPI	Titan	6.309		Date	0031	Date	0031	Date	Compicie	6.309	
Primary Hardware Development	FFP	SRC	18.505								18.505	
Primary Hardware Development	РО	NAVSUP/SRC	5.223	1							5.223	
Primary Hardware Development	Var	Various	16.491	0.633	12/02	0.578	12/03	0.644	12/04	Continuing	Continuing	
Primary Hardware Development	CPFF	CSC	3.588								3.588	
Primary Hardware Development	PO	NAVAIR/ISC	1.176								1.176	
Primary Hardware Development	Var	Various	9.344								9.344	
Primary Hardware Development	FFP	Motorola	8.045								8.045	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			68.681	0.633		0.578	3	0.644		0.000	70.536	
Remarks:												

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (p APPROPRIATION/BUDGET ACT	age 1)										February 200	14	
	IVITY		PROGRAM E	LEMENT			PROJECT NU	IMBER AND I	NAME				
RDT&E, N / BA-7			PE: 03031091	N Satellite Co	mmunications	(Space)	0731 Fleet Sa	tellite Comm					
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
		Activity &			FY 03	Award		Award	FY 05	Award		Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Development Support												0.000	
Software Development												0.000	
Integrated Logistics Support												0.000	
Configuration Management												0.000	
Technical Data												0.000	
Studies & Analyses												0.000	
GFE												0.000	
Award Fees												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
Subtotal Support				0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:													

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)									February 200	4	
APPROPRIATION/BUDGET ACTIV	ITY	PROGRAM E	LEMENT			PROJECT N	JMBER AND N	NAME				
RDT&E, N / BA-7		PE: 0303109f	N Satellite Co	mmunications	(Space)	0731 Fleet Sa						
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &		FY 03	Award	FY 04	Award	FY 05	Award	Cost to		Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete		of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	PO	SSC SD	1.905								1.905	
Operational Test & Evaluation	MIPR	OPTEVFOR	0.238								0.238	
Operational Test & Evaluation	Var	Various	9.296								9.296	
Operational Test & Evaluation	PO	SSC CH	1.731								1.731	
Operational Test & Evaluation	CPAF	BAH	0.591								0.591	
Award Fees											0.000	
Subtotal T&E			13.761	0.000		0.00	D	0.000		0.000	13.761	
Contractor Engineering Support	CPFF	CSC	3.588								3.588	
Contractor Engineering Support	CPFF	ACS	0.674								0.674	
Government Engineering Support	PO	NAVAIR	1.176								1.176	
Government Engineering Support	Var	Various	9.896								9.896	
Government Engineering Support	PO	SSC CH	0.300								0.300	
											0.000	
Subtotal Management			15.634	0.000)	0.00	D	0.000		0.000	15.634	
Remarks:												
Total Cost			98.076	0.633	3	0.578	3	0.644		0.000	99.931	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule P	PROGRAM ELEMENT NUMBER AND NAME BA-7 2003 2004 2005 2006 2																	DATE	:									
A DDD ODDIATION /DUD OFT	A O T 1) //3				lano o		=: =: 4			D 4115							Inna	FOT		- A A A I I			F	ebrua	ry 20	004		
RDT&E, N / BA-7	ACTIVIT	ΙΥ																				/ SCI 1	JET\A/	OBKE				
RDIGE, N / BA-1					03031	U9IN, V	bateiit	e Com	Hunica	alions	(Зрасе)					0/31	rli 3	ATCO	IVI		/ 3011	NE I VV	UKKS				
Fiscal Year		200)3			20	04			20	05			20	06			20	07			200	08			20	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones												marine																
			D		DT IIIB	Lab																						
Test & Evaluation Milestones					ub 🔻		DT III	С																				
Development Test Operational Test					1																							
Production Milestones				S				OT IIIA																				
Deliveries												T 14.																

R-1 SHOPPING LIST - Item No. 190

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Exhibit R-4, Schedule Profile (Exhibit R-4, page 20 of 44)

CLASSIFICATION:

UNCLASSFIED

Exhibit R-4a, Schedule Detail						DATE: Febru a	ary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	EMENT			PROJECT NU	MBER AND N	AME
RDT&E, N / BA-7	0303109N, Sa	tellite Commun	ications (Space	∋)	0731, FLT SA	TCOM - / SCI N	NETWORKS
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone Decision (MS-IIIA)							
Milestone Decision (MS-IIIB)		1Q					
Milestone Decision (MS-IIIC)			2Q				
Developmental Testing (DT-IIIA)							
Developmental Testing (DT-IIIB)		1Q					
Developmental Testing (DT-IIIC)		3Q					
Operational Testing (OT-IIIA)		4Q					
Operational Testing (OT-IIB)		1Q					
Developmental Testing (DT-IID)	4Q						
					1]	

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UNCLASSIFIED

Exhibit R-4a, Schedule Detail (Exhibit R-4a, page 21 of 44)

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile																				DATE	:		Febr	uary	2004			
APPROPRIATION/BUDGET	ACTIVI	ΓΥ			PROG	RAM	ELEM	ENT N	UMBE	R AND	MAM (E					PROJ	ECT N	IUMBEI	R AND	NAM	E							
RDT&E, N /					PE: 0	303109	ON S	atellite	Comn	nunica	tions (Space)				0731	Fleet S	Satellite	Comm	n - JMI	NI							
Fiscal Year		200	03			20	04			20	05			20	06			20	07			20	08			20	09		
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Acquisition Milestones																													
Prototype Phase										Со	ntract l	Dev																	
System Development														SD	Dev	SDR	SS	Dev		SSR	Sys	Dev	CDR						
Test & Evaluation Milestones																									TRR				
Development Test Operational Test																								DT			ОТ		
Production Milestones System Upgrade Fielding																													

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CLASSIFICATION:

UNCLASSFIED

	Exhibit R-4a, Schedule Detail					DATE:			
RDT&E, N / BA-7 PE: 0303109N Satellite Communications (Space) 0731 Fleet Satellite Comm - JMINI Schedule Profile FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Prototype Phase 1Q - 3Q 1Q - 4Q 1Q -							Februa	ary 2004	
Schedule Profile FY 2003 FY 2004 FY 2005 FY 2007 FY 2008 FY 2009 Prototype Phase 1Q - 3Q 1Q - 3Q 1Q 3Q 1Q 3Q 1Q <	APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT			PROJECT NU	MBER AND N	AME	
Prototype Phase 1Q - 3Q Contract Development 1Q Software Design Development 3Q Software Design Review (SDR) 4Q Software Specification Development 4Q Software Specification Review (SSR) 4Q System Development 1Q - 4Q Critical Design Review (CDR) 3Q Regression Testing 4Q 1Q Test Readiness Review (TRR) 1Q 3Q Developmental Testing 1Q - 3Q	RDT&E, N / BA-7	PE: 0303109N	Satellite Co	mmunications (Space)	0731 Fleet Satellite Comm - JMINI			
Contract Development 1Q Software Design Development 3Q Software Design Review (SDR) 4Q Software Specification Development 4Q Software Specification Review (SSR) 4Q System Development 1Q - 4Q Critical Design Review (CDR) 3Q Regression Testing 4Q 1Q Test Readiness Review (TRR) 1Q 1Q Developmental Testing 1Q - 3Q	Schedule Profile	FY 2003	FY 2004	FY 2005		FY 2007	FY 2008	FY 2009	
Software Design Development 3Q Software Design Review (SDR) 4Q Software Specification Development 4Q Software Specification Review (SSR) 4Q System Development 1Q - 4Q Critical Design Review (CDR) 3Q Regression Testing 4Q 1Q Test Readiness Review (TRR) 1Q 1Q Developmental Testing 1Q - 3Q									
Software Design Review (SDR) 4Q Software Specification Development 4Q 1Q - 3Q Software Specification Review (SSR) 4Q 1Q - 4Q System Development 1Q - 4Q 1Q - 4Q Critical Design Review (CDR) 3Q 4Q 1Q Regression Testing 4Q 1Q 1Q Test Readiness Review (TRR) 1Q 1Q 3Q Developmental Testing 1Q - 3Q 1Q - 3Q 1Q 1Q 1Q 1Q 1Q 3Q 1Q 1Q 3Q 1Q 1Q 3Q 1Q 1Q 3Q 1Q 1Q 1Q 3Q 1Q 1Q 3Q 1Q 1Q 1Q 1Q 3Q 1Q	Contract Development								
Software Specification Development 4Q 1Q - 3Q Software Specification Review (SSR) 4Q System Development 1Q - 4Q Critical Design Review (CDR) 3Q Regression Testing 4Q 1Q Test Readiness Review (TRR) 1Q 1Q Developmental Testing 1Q - 3Q	Software Design Development								
Software Specification Review (SSR) 4Q System Development 1Q - 4Q Critical Design Review (CDR) 3Q Regression Testing 4Q 1Q Test Readiness Review (TRR) 1Q 1Q Developmental Testing 1Q - 3Q									
System Development 1Q - 4Q Critical Design Review (CDR) 3Q Regression Testing 4Q 1Q Test Readiness Review (TRR) 1Q 1Q Developmental Testing 1Q - 3Q 1Q					4Q				
Critical Design Review (CDR) 3Q Regression Testing 4Q 1Q Test Readiness Review (TRR) 1Q 1Q Developmental Testing 1Q - 3Q						4Q			
Regression Testing 4Q 1Q Test Readiness Review (TRR) 1Q Developmental Testing 1Q - 3Q	System Development								
Test Readiness Review (TRR) Developmental Testing 1Q 1Q - 3Q	Critical Design Review (CDR)								
Developmental Testing 1Q - 3Q	Regression Testing						4Q		
	Test Readiness Review (TRR)								
Operational Evaluation 4Q									
	Operational Evaluation							4Q	
	·								

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UNCLASSIFIED

Exhibit R-4a, Schedule Detail (Exhibit R-4a, page 23 of 44)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febr	uary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUM	BER AND NAM	IE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0303109N Sat	ellite Commun	ications (Space	e)		2472 Mobile U	Jser Segment				
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program
Project Cost	68.209	66.979	195.019	503.651	621.268	661.558	561.584	209.618		161.114	3,049.000
RDT&E Articles Qty					1	1					2

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) This program provides for the development of the next generation DoD narrowband communications satellite constellation, the Mobile User Objective System (MUOS).
- (U) The Mobile User Objective System (MUOS) program provides for the development of the next generation DoD advanced narrowband communications satellite constellation. The current UHF Follow-On (UFO) constellation is expected to degrade below acceptable availability parameters in 2010. The MUOS program builds on state-of-the-art technologies and best commercial practices to develop a totally responsive joint warfighter system. In addition, new user requirements have been identified and advanced concepts developed to incorporate new programs and technologies which address the significant growth in requirements for military narrowband communications, as required per the approved joint interest MUOS Operational Requirements Document (ORD).
- (U) This RDT&E effort supports the program objectives by assisting in identifying the most effective way to field a new system by FY 2009. Two Component Advanced Development (CAD) contracts were awarded in Q4 FY 2002. The CAD contracts continue into FY 2004. In FY 2004, a single Risk Reduction & Design Development (RRDD) contract will be awarded after Key Decision Point (KDP) B in Q2 FY 2004.

Note: Prior Years Cost reflects MUOS costs only.

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CLASSIFICATION:

PROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME 2472 Mobile User Segment 1) B. Accomplishments/Planned Program Production Producti	DATE:
DT&E, N / BA7 0303109N Satellite Communications (Space) 2472 Mobile User Segment B. Accomplishments/Planned Program FY 03 FY 04 FY 05 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity (U) FY03: Fully fund MUOS CAD contracts and associated system engineering tasks. (U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	February 2004
B. Accomplishments/Planned Program FY 03 FY 04 FY 05 Accomplishments/Effort/Subtotal Cost 66.979 195.019 503.651 RDT&E Articles Quantity	
FY 03 FY 04 FY 05	
FY 03 FY 04 FY 05	
Accomplishments/Effort/Subtotal Cost 66.979 195.019 503.651 RDT&E Articles Quantity (U) FY03: Fully fund MUOS CAD contracts and associated system engineering tasks. (U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
(U) FY03: Fully fund MUOS CAD contracts and associated system engineering tasks. (U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
 (U) FY03: Fully fund MUOS CAD contracts and associated system engineering tasks. (U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks. 	
(U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
(U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
(U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
(U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
(U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
(U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
(U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
(U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
(U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
(U) FY04: Award MUOS Risk Reduction and Design Development (RRDD) contract and fund associated system engineering tasks. Complete MUOS CAD contracts a associated system engineering tasks.	
associated system engineering tasks.	
associated system engineering tasks.	
	and
(U) FY05: Continue funding for MUOS RRDD contract and associated system engineering tasks.	
(U) FY05: Continue funding for MUOS RRDD contract and associated system engineering tasks.	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DA ⁻	TE:
•				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	P	ROJECT NUMBER AND NAME	
RDT&E, N / BA-7	303109N Satellite Communications (Space)	24	172 Mobile User Segment	
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2003	FY 2004	FY 2005	
FY04 President's Budget	59.018	315.801	428.177	
			=	
FY05 President's Budget	66.979 7.961	195.019 -120.782	503.651 75.474	
Total Adjustments	7.901	-120.782	75.474	
Summary of Adjustments				
Janua CEO/2 Fadeval Tachnolay Transfer	-0.025			
Issue 65943 Federal Technolgy Transfer				
Issue 66561 MUOS/AEHF BTR	8.000			
Issue 68849 FY2003 Update	-0.385			
Issue 66544 FY03 Midyear Review Adjustme				
Issue 66556 FY03 SBIR 5-May-03	-1.529			
Issue 66778 MUOS AEHF FY04 BTR		-8.000		
Issue 68041 Management Improvements		-0.522		
Issue 68060 FFRDC Reduction		-0.112		
Issue 68066 Efficiencies/Reivised Econ. Ass		-2.146		
Issue 68580 MUOS insufficient justification/b	urn rate	-110.000		
Issue 66961 SPAWAR Service Cost Center /	Adj	-0.002	-0.003	
Issue 19000 HQ support			-0.344	
Issue 19022 Realign O&MN to RDT&E			5.364	
Issue 67767 NWCF Rates SPAWAR SSC			-0.003	
Issue 67689 Manpower			-0.008	
Issue 66923 Restructure of 2 MUOS Satellite	es .		70.458	
Issue 69025 WCF - R&D - SPAWAR - PBD 4	130		-0.001	
Issue 69045 PBD 426 Rates -SSC			0.004	
Issue 69459 spread 728 rounding			0.042	
Issue 69492 PBD-604 inflation			-1.626	
Issue 69512 PBD 604 non purchase inflation			-0.289	
Issue 69650 P07 Technical Adjustments			-0.206	
Issue 69928 Technical Adjustment to match (219		2.086	
Subtotal	7.961	-120.782	75.474	
	7.301	120.702	. 5. 11 1	
(U) Schedule:				
Award of two MUOS RRDD contract moved from 2	2nd Qtr 04 to 3rd Qtr 04.			
(U) Technical:				
Not Applicable				
	P-1 SHODDING LIST - It	ana Na 1	90	

CLASSIFICATION:

,	•								February 2004
APPROPRIATION/BUDGET AC	CTIVITY		PROGRAM E	LEMENT NUM	BER AND NAM	1E	PROJECT NU	MBER AND NAME	E
RDT&E, N /	BA-7		0303109N Sat	ellite Commini	cations (Space)	2472 Mobile U	Jser Segment	
(U) D. OTHER PROGRA	AM FUNDING SUMMARY:								To Total
Line Item No. & Name		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u> <u>Cost</u>
2433 - Fleet Satellite	e Communications Follow-o	n				229.427	615.872	625.939	1,571.762 3,043.000

(U) E. ACQUISITION STRATEGY: *

EXHIBIT R-2a, RDT&E Project Justification

Concept Exploration contracts were awarded in early FY 2000 and completed in late FY 2001. Two Component Advancement Development (CAD) contracts were awarded in Q4 FY 2002. A RRDD contract will be awarded in 3Q FY04 with production options starting in 1Q FY07 with first launch (IOC) in 2009.

(U) F. MAJOR PERFORMERS: **

Lockheed Martin CAD Raytheon CAD

R-1 SHOPPING LIST - Item No. 190

DATE:

CLASSIFICATION:

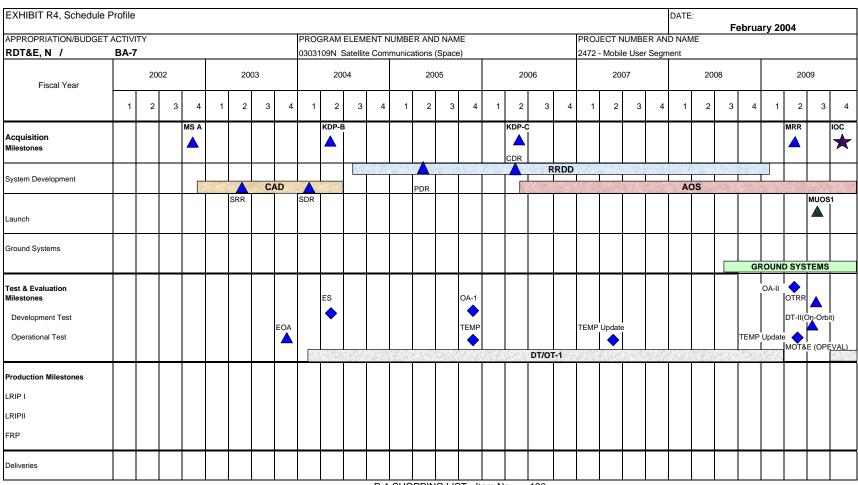
									DATE:				
Exhibit R-3 Cost Analysis (p.	age 1)										February 200	04	
APPROPRIATION/BUDGET ACT	IVITY		PROGRAM E	LEMENT			PROJECT NU	JMBER AND I	NAME		•		
RDT&E, N / BA-7			0303109N Sa	tellite Commun	ications (Spac		2472 Mobile		t				
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
MUOS Contracts and Demos	COM/FFI	P		57.139	58.462	! 1Q	168.100) 2Q	479.151	1Q	2,083.142		
		1										0.000	
AoA for MUOS	MIPR			2.782								2.782	
Government Studies	VAR			0.711								0.711	
Crypto Procurement							1.200)				1.200)
												0.000	
												0.000)
												0.000	
												0.000)
												0.000)
												0.000)
Subtotal Product Development				60.632	58.462	,	169.300)	479.151		2,083.142		
Development Support												0.000	
Software Development												0.000)
Integrated Logistics Support				0.301							0.000	0.301	
Configuration Management												0.000)
Technical Data												0.000)
Studies & Analyses												0.000	1
GFE												0.000	
Award Fees												0.000	
Subtotal Support				0.301	0.000		0.000)	0.000)	0.000		
	<u>'</u>	1				1				1			
Remarks:													
				ᄓᆚᄝᄓ	TOLL DIVIDE	- Itam Na	100						

Exhibit R-3, Project Cost Analysis (Exhibit R-3, page 28 of 44)

CLASSIFICATION:

									DATE:					
Exhibit R-3 Cost Analysis (pagaPPROPRIATION/BUDGET ACTIV	je 2)										February 200)4		
	ITY		PROGRAM ELEME	ENT			PROJECT N	UMBER AND NAME						
RDT&E, N / BA-7			0303109N Satellite		ications (Spac		2472 Mobile		t					
Cost Categories	Contract	Performing	Total	ıl		FY 03		FY 04		FY 05				
	Method	Activity &	PY s		FY 03	Award	FY 04	Award	FY 05	Award	Cost to		Target Value	
	& Type	Location	Cost	t l	Cost	Date	Cost	Date	Cost	Date	Complete		of Contract	
Developmental Test & Evaluation					0.070						2.000	2.070		
Operational Test & Evaluation											2.000	2.000		
Live Fire Test & Evaluation												0.000		
Test Assets												0.000		
Tooling												0.000		
GFE												0.000		
Award Fees												0.000		
Subtotal T&E				0.000	0.070		0.00	D	0.000)	4.000	4.070		
Contractor Engineering Support	VAR			4.876	6.555		10.01	9	10.035	;	55.900	87.385		
Government Engineering Support	VAR			1.400	0.346		3.20)	3.200)	10.000	18.146		
Program Management Support	VAR			1.000	1.251		12.00)	10.765	5	59.600	84.616		
Travel					0.295		0.50	0	0.500)	2.500	3.795		
Transportation												0.000		
												0.000		
Subtotal Management				7.276	8.447		25.71	9	24.500)	128.000	193.942		
Remarks:														
Total Cost				68.209	66.979		195.01	9	503.651		2,215.142	3,049.000		
Remarks:														

CLASSIFICATION:



 $^{^{\}star}$ Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:			
							ebruary 200)4	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	EMENT			PROJECT NU	IMBER AND NA	AME		
RDT&BA-7	0303109N Sa	tellite Commun	nications (Space	e)	2472 Mobile I	User Segment			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Milestone A									
Component Advanced Development (CAD)		1Q-4Q	IQ-2Q						
Early Operational Assessment (EOA)			1Q						
System Requirements Review		2Q							
Evaluation Strategy (ES)			2Q						
System Design Review (SDR)			1Q						
Key Decision Point B			2Q						
Preliminary Design Review (PDR)				2Q					
Test and Evaluation Master Plan (TEMP)				4Q					
Deveolpmental Testing (DT)/Operational Testing(OT-1)			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q		
Key Decision Point C			1 4 1 4		2Q				
Critical Design Review (CDR)					2Q				
Operational Assessment (OA-I)				2Q	20				
Test and Evaluation Master Plan (TEMP) Update									
						2Q			
Risk Reduction and Design Development (RRDD)			3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Acquisition & Operations Support (AOS)			3Q-4Q	1444	10-40	1Q-4Q	1Q-4Q	1Q-4Q	
Launch 1 (M1)						10.70	10, 10,	3Q	
Ground System (1)							3Q		
Mission Readiness Review (MRR)							2Q		
IOC							-~	4Q	
Operational Assessment (OA-II)							1Q		
Test and Evaluation Master Plan (TEMP) Update									
Opertional Test Readiness Review (OTRR) for MOT&E								3Q	
5-2-11-2-14 1-3-3-1-3-3-1-3-1-3-1-4-1-1-1-1-1-1-1-1-								3Q	
Developmental Testing (DT-IIA) (On-Orbit)								3Q	
Multi-Service Opertional Testing & Evaluation ((OPEVAL) (MOT&E)								4Q	
Follow-On Test Evaluation (FOT&E)					1	 		40	
1 Officer - Offi 163t Evaluation (1 Office)	1						1	1	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUM	BER AND NAM	E	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0303109N - Sa	atellite Commu	nications (Spac	ce)		9122 Transfor	mational Com	munications (p	oreviously nam	ed Advanced Widel	oand)
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program
Project Cost	0.000	5.674	12.564	18.452	62.702	104.263	77.371	73.158		Continuing	Continuing
RDT&E Articles Qty					4	12					16

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) The Navy Trans	formational Communications program prov	ides for the development and production	n of terminals to provide high capacity reliable, I	ow probability of intercept (LPI)	,, Anti-Jam (AJ), communicatio
capability to the fleet	. Terminals will support multiple data strear	ns over Q/Ka-band, Ka-band, and X-band	d. The terminals will also support mesh networkin	g without the need for gateway	terminals.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			Februai	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME	
RDT&E, N / BA-7	0303109N - Satellite Communications (Space)	9122 Transformational Con	nmunications	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
TC Concept Development	5.674	12.564	18.452
RDT&E Articles Quantity			

- (U) **FY03**: Began development of wideband tactical, protected tactical, and broadcast terminals to operate with Transformational Communications (TC) Architecture. Began development of strategic terminals that will operate with the protected satellites in mid-latitude and polar regions. Development included concept exploration and systems engineering analysis. Investigated optimum methods to implement software programmable, modular, reconfigurable, and upgradeable SATCOM terminals. Investigated multi-band feed and phased array options. Terminal modem concepts were explored. Began process of exploring and documenting risk areas. Terminal designs were explored to mitigate these risk areas.
- (U) **FY04**: Continue concept exploration systems engineering and analysis. Build and test prototype systems components including the multiband feed assemblies, multiband Radio Frequency (RF) equipment, multiband antenna radome for Radar Cross Section reduction and RF transmissibility, and fast acting multi-antenna switching systems. FY 2004 goals are to validate component designs for migration to system level inclusion.
- (U) **FY05**: Migrate component prototypes tested in FY 2004 into a system level design. Begin system level engineering process to determine optimal tradeoffs between cost and performance. Build prototypes of system level components (multi band antenna system, multi-band IF and RF generation systems) and test.

CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justificatio	n				DATE:	
						February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUME	BER AND NAME		PROJECT NUMBI	ER AND NAME	
RDT&E, N / BA-7	0303109N - Satellite Commu	nications (Space)		9122 Transforma		
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:		FY 2003	FY 2004	FY 2005		
FY 04 Presidents Budget		5.854	12.706	18.599		
FY 05 Presidents Budget		5.674	12.564	18.452		
Total Adjustments		-0.180	-0.142	-0.147		
Summary of Adjustments						
Issue 66556 FY03_SBIR_		-0.120				
Issue 68849 FY 2003 Upda	ate	-0.060				
	: Management Improvements		-0.034			
	ficiencies/Revised Econ. Assumption		-0.108			
Issue 69492 PBD-604 Infla			-0.049			
Issue 69512 PBD-604 no			-0.011			
Issue 69650 P07 Technica			-0.008			
Issue 67689 Manpower				-0.079		
Subtotal		-0.180	-0.142	-0.147		
(U) Schedule:						
Program Office will begin Acquisition	Strategy development and refinement in	FY04. Currently I	Milestone B is	s projected in FY06.	A draft schedule is provi	ded in R4 exhibit.
(U) Technical:						
Not Applicable.						
	R-1 SHC	PPING LIST -	Item No	190		

CLASSIFICATION:

	ect Justification							DATE:	Februa	ary 2004
PPROPRIATION/BUDGET ACT	VITY	PROGRAM E	LEMENT NUM	BER AND NAM	1E	PROJECT NU	ME		-	
DT&E, N /	BA-7	0303109N - S	0303109N - Satellite Communications (Space) 9122 Transf			rmational Com	munications			
(U) D. OTHER PROGRAM	FUNDING SUMMARY:								т.	Tatal
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		To <u>Complete</u>	Total <u>Cost</u>
321500 - OPN Ship ar	d Shore* NA	NA	NA	NA	NA	24.193	90.345		1309.87	1424.466
(U) E. ACQUISITION STRAT	ECV. *									
TBD until the system a	rchitecture is defined by the ongoin	g Transformation	al Communica	tion Study.						
(U) F. MAJOR PERFORMER	S: **									

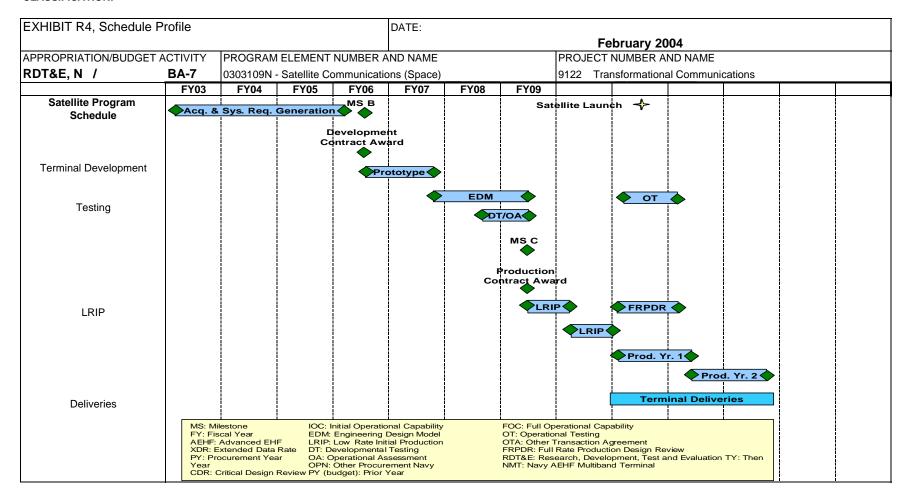
CLASSIFICATION:

									DATE:							
Exhibit R-3 Cost Analysis (pa	ge 1)								February 2004							
APPROPRIATION/BUDGET ACTI	VITY		PROGRAM EI	LEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-7			0303109N - Satellite Communications (Space)				9122 Trans		ommunications							
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract			
Hardware Development	Various	Various		N/			9.303	1	14.263		Continuing	1				
Ancillary Hardware Development	various	various		INA	3.03	3 10/03	9.500	12/03	14.203	10/04	Continuing	0.000				
Systems Engineering	Various	Various			1.07	0 10/02	0.289	10/03	0.811	10/04	Continuing					
Systems Engineering	WR	NUWC			0.35		0.265		0.011	10/04	Continuing					
Cystems Engineering	VVIX	110110			0.55	0 10/02	0.540	10/03			Continuing	0.000				
											Continuing		1			
											Continuing		1			
											Continuing	0.000				
												0.000				
												0.000				
												0.000				
Subtotal Product Development				0.00	0 4.47	3	10.137	7	15.074		Continuing					
Development Support	WR	SSC SD			0.08	6 03/03	0.774	10/03	1.043	10/04	Continuing	Continuing				
Integrated Logistics Support												0.000				
Studies & Analyses	Various	Various			1.11	5 03/03	1.162	10/03	1.378	10/04	Continuing					
												0.000				
												0.000				
											Continuing	Continuing				
											Continuing	Continuing				
												0.000				
Subtotal Support				0.00	1.20	1	1.936	6	2.421		Continuing	Continuing				
Remarks:																

CLASSIFICATION:

									DATE:								
Exhibit R-3 Cost Analysis (pag	ge 2)										February 200)4					
APPROPRIATION/BUDGET ACTIV	TTY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME										
RDT&E, N / BA-7			0303109N - Satellite C	ommun	ications (Spa		9122 Transformational Communications										
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost		FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract				
Developmental Test & Evaluation	71											0.000					
Operational Test & Evaluation												0.000					
·												0.000					
												0.000					
												0.000					
												0.000					
												0.000					
Subtotal T&E				0.000	0.000		0.000)	0.00	0	0.000	0.000					
Contractor Engineering Support												0.000					
Development Support												0.000					
Program Management Support	Various	Various					0.45	1 10/03	0.95	7 10/04	Continuing	Continuing					
Studies & Analyses												0.000					
Travel							0.040	10/03				0.040					
												0.000					
Subtotal Management				0.000	0.000)	0.49	I	0.95	7	Continuing	Continuing					
Remarks:																	
Total Cost				0.000	5.674	ı.	12.564	1	18.45	2	Continuing	Continuing					
Remarks:																	

CLASSIFICATION:



CLASSIFICATION:

Exhibit R-4a, Schedule Detail	DATE: February 2004									
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	MENT			PROJECT NUME					
RDT&BA-7	0303109N - Sate		ons (Space)		9122 Transformational Communications					
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009			
Milestone B (MSB)				2Q						
Contract Award				2Q						
Prototype Complete					4Q					
Engineering Development Model (EDM) Begins					4Q					
Developmental Testing / Operational Assessment						3Q				
Milestone C (MS C)							1Q			
Start Low-Rate Initial Production I (LRIP I)							1Q			
	-									
	-									

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febr	uary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM E	LEMENT NUM	BER AND NAM	IE .	PROJECT NU	IMBER AND N	AME		_	
RDT&E, N / BA-7	0303109N Sa	atellite Commu	nications (Spac	ce)		X9429 SPAW	AR Covert Con	nmunication ar	nd Information	Transfer	
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost				1.730							1.73
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

FY 2004 Congressional add for Covert Communications required for operational utilization.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica				DATE: February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	R AND NAME	PROJECT NUMBER AND N	NAME
PDT&E, N /BA-7	0303109N Satellite Communica	ations (Space)	X9429 SPAWAR Covert Co	mmunication and Information Transfer
J) B. Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	
CCIT		1.730		
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No.

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UNCLASSIFIED Exhibit R-2a, RDTE

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	n .				DATE	:		
						l	ebruary 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMB	SER AND NAME	P	ROJECT NUMBER	AND NAME			
RDT&E, N / BA-7	0303109N Satellite Commun	ications (Space)	Х	9429 SPAWAR Cove	ert Communic	ation and Inform	ation Transfer	
(U) C. PROGRAM CHANGE SUMMARY:								
(U) Funding: FY04 President's Budget: FY05 President's Budget:		FY 2003	FY 2004 0.000 1.730	FY 2005				
Total Adjustments		0.000	1.730	0.000				
Issue 68041 Section 8094: Ma	nications and Information Transfer inagement Improvements iciencies/Revised Econ. Assumptions		1.750 -0.005 -0.015					
Subtotal		0.000	1.730	0.000				
(U) Schedule:								
Not Applicable								
(U) Technical:								
Not Applicable								
	5 / 6116	DDINIO LIGT. II		22				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:		
								Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY			BER AND NAM		PROJECT NUI				
RDT&E, N / BA-7	0303109N Sa	atellite Commu	nications (Spac	e)	X9429 SPAWA	R Covert Com	munication ar	d Information Tra	ansfer
(U) D. OTHER PROGRAM FUNDING SUMMARY:								To	Total
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
(U) E. ACQUISITION STRATEGY:									
(0) = 170 (0001101101101110111									
Not Applicable									
(U) F. MAJOR PERFORMERS:									

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pa	ge 1)										February 20	04	
APPROPRIATION/BUDGET ACTIV	VITY		PROGRAM I	ELEMENT			PROJECT NU	JMBER AND	NAME				
RDT&E, N / BA-7			0303109N	Satellite Commu	unications (Spa		X9429 SPAW		ommunication a		n Transfer		
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												0.000	,
Ancillary Hardware Development												0.000	,
Aircraft Integration												0.000	,
Ship Integration												0.000	,
Ship Suitability												0.000	
Systems Engineering	РО	SSC					1.730					1.730	,
Training Development												0.000	,
Licenses												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	,
												0.000	,
												0.000	
												0.000	
												0.000	,
												0.000	,
												0.000	,
												0.000	
												0.000	,
												0.000	
												0.000	
												0.000	
												0.000	
Subtotal Product Development				0.000	0.000)	1.730		0.00	00	0.000	1.730	,
Remarks:													

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	1							DATE:			
									Febru	ary 2004	
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NO	MENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALU	ATION, NAVY /	BA-7				0303140N Info	ormation Syster	ns Security Pr	ogram (ISSP)		
	Prior										Total
COST (\$ in Millions)	Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Total PE Cost	156.934	0.000	25.733	25.366	18.676	17.637	20.673	21.197	21.536	Continuing	Continuing
0734 Information Systems Security	154.533		16.065	15.876	16.539	15.535	18.624	19.000	19.387	Continuing	Continuing
0734 Information Assurance	0.000		4.090	2.271	2.137	2.102	2.049	2.197	2.149	Continuing	Continuing
2987 Intelligent Agent Security Module	2.401		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.401
9280 KG-40A Modernization Program	0.000		1.264	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.264
9281 Intelligent Agent Security Module	0.000		4.314	5.439	0.000	0.000	0.000	0.000	0.000	0.000	9.753
9430 SECURE Kit	0.000		0.000	1.780	0.000	0.000	0.000	0.000	0.000	0.000	
Quantity of RDT&E Articles											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) The goal of the Navy Information Systems Security Program (ISSP) is to ensure the continued protection of Navy and Joint information and information systems from hostile exploitation and attack. The ISSP is the Navy's implementation of statutory and regulatory requirements specified in Presidential Decision Directive 63, the Computer Security Act of 1987 (Public Law 100-235), Appendix III of Office of Management and Budget (OMB) Circular A-130, and DOD Directive 5200.28. ISSP activities address the triad of Defensive Information Operations defined in Joint Publication 3-13; protection, and reaction. Evolving detection and reaction responsibilities extend far beyond the traditional ISSP role in protection or Information Security (INFOSEC). Focused on the highly mobile forward-deployed subscriber, the US Navy's adoption of Network-Centric Warfare (NCW) places demands upon the ISSP, as the number of users explodes and the criticality of their use escalates. Today, the ISSP protects an expanding core service critical to the effective performance of the Navy's mission.
- (U) The interconnectivity of Naval networks, attachment to the public information infrastructure, and their use in modern Naval and Joint war fighting means that the Naval Information Infrastructure (NII) is a higher value and more easily attainable target. An adversary has a much broader selection of attack types from which to choose than in the past. In addition to the traditional attacks that involve the theft or eavesdropping of information, United States Navy (USN) information systems face advanced attacks involving malicious changes to critical information, changes to the functioning of critical systems, denial of service, and the destruction of systems and networks. Since many Navy information systems are based on commercially available technologies, an adversary often has access to the very technologies they want to exploit.
- (U) The rapid rate of change in the underlying commercial and government information infrastructures makes the provision of security an increasingly complex and dynamic problem. ISSP provides the Navy's war fighter the essential information trust characteristics of availability, integrity, authentication, privacy, and non-repudiation. Information Assurance (IA) technology mix and deployment strategies must evolve quickly to meet the rapidly evolving threats and vulnerabilities. No longer can information security divorce the information infrastructure.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURI	E
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0303140N Information Syste	ems Security Program (ISSP)
(U) The Navy ISSP RDT&E program works to provide the Navy with these essential IA elements: (1) Assured sepa Assurance of the telecommunications infrastructure; (3) Assurance of Joint user enclaves, using a Defense in Depth a Supporting assurance technologies, including a Public Key Infrastructure (PKI) and directories. The goal of all ISSP I certification and accreditation requirements outlined in Department of Defense (DOD) Instruction 5200.40. Modeling I developments), the ISSP RDT&E program must be predictive, adaptive, and technology coupled. The program devel criticality, exploitation risks, risk management, and integrated Joint information system efforts.	architecture; (4) Assurance of RDT&E activities is to produce DOD and commercial informa	the computing base and information store; and, (5) e the best USN operational system that can meet the strion systems evolution (rather than being one-time
(U) All ISSP RDT&E efforts comply with the National Technology Transfer and Advancement Act of 1995 (Public L February 10, 1998, DoD Instruction 4120.24, Defense Standardization Program (DSP), and DoD Instruction 4120.3-M commercial standards bodies in ISSP-related matters include International Standards Organization (ISO), American M Internet Engineering Task Force (IETF), World Wide Web Consortium (W3C), and National Institute of Standards and systems makes standards compliance a must. During meetings held with OPNAV N64 in March 2001, the ISSP esta Capability Teams (MCT). This resulted in reorganization of the ISSP budget structure which facilitates the continuance.	I, Defense Standardization Pr National Standards Institute (A I Technologies (NIST). The J blished a revised goal and ob	rogram Policies and Procedures. The predominant ANSI), Institute of Electrical and Electronics Engineers (IEEE), loint interoperability required in today's telecommunications
(U) The interconnection of USN and the NII requires all ISSP RDT&E activities to adopt a minimum standard of "be technologies to determine their fit within the USN architectures, provides feedback to vendors about what the Navy remission critical systems specified in Clinger/Cohen Act, the ISSP RDT&E develops or tailors commercial technologies portions of systems and examines their utility in operational Navy settings; and, provides IA expertise and engineering efforts solve specific Navy and Joint IA problems using techniques that speed transition to procurement as soon as re	quires, and participates in the s, standards, and processes to g to Navy and Joint informatio	e standards bodies themselves. When necessary to protect o meet Navy-unique requirements; prototypes systems or
(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOR of existing, operational systems.	PMENT because it encompas	ses engineering and manufacturing development for upgrade

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	ary 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT NUMI	BER AND NAM	IE		PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0303140N Info	ormation Syster	ms Security Pro	gram (ISSP)		0734 Informati	on Systems Se	ecurity			
	Prior										Total
COST (\$ in Millions)	Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost	154.533		16.065	15.876	16.539	15.535	18.624	19.000	19.387	Continuing	Continuing
RDT&E Articles Qty											

- (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Navy Information Systems Security Program (ISSP), RDT&E provides Information Assurance (IA) solutions for the United States Navy (USN) forward deployed, highly mobile information subscriber. The Network-Centric afloat war fighter must rely upon an assured information infrastructure, and the ISSP RDT&E program architects, engineers, and provides the Quality of Assurance (QoA) consistent with risks faced. The ISSP addresses engineering design, development, modeling, test, and evaluation for the unique IA challenges associated with the highly mobile, dispersed, bandwidth limited, and forward-tactical connected USN communications systems.
- (U) ISSP RDT&E must work closely within the Navy's Information Operations Exploit (Signals Intelligence SIGINT) and Information Operations Attack (INFOWAR) communities. ISSP RDT&E developed systems must dynamically change the Navy's current assurance vector, based upon operational indications and warnings. To ensure interoperability, ISSP RDT&E must integrate fully with the Maritime Cryptologic Architecture. ISSP RDT&E developed systems can provide the trigger for offensive warfare activities, such as those developed by the Naval Information Warfare Activity (NIWA).
- (U) This program element includes a rapidly evolving design and application engineering effort to modernize National-Security-grade (type-1) cryptographic equipment and ancillaries with state-of-the-art replacements in order to counter evolving and increasingly sophisticated threats. Communication Security (COMSEC) and Transmission Security (TRANSEC) evolution is from stand-alone dedicated devices to embedded modules incorporating National Security Agency (NSA) approved cryptographic engines, loaded with the certified algorithms and key, and interconnected via industry-defined interfaces.
- (U) In addition to protecting National Security information, ISSP RDT&E must provide enterprise-wide assurance for statutorily protected information under the Privacy Act of 1974, Computer Matching and Privacy Protection Act of 1988, Medical Records Confidentiality Act of 1995, Model State Public Health Privacy Act, 45 CFR subtitle A sub-chapter C, parts 160- 164, 1999, and the Federal Education Records Privacy Act. ISSP RDT&E efforts must also provide assurance to the broad spectrum of Sensitive-but-Unclassified (SBU) information such as financial, personnel, contractor proprietary, and procurement sensitive.
- (U) The ISSP today includes much more than legacy Computer Security (COMSEC) and Network Security (NETSEC) technology. IA, or Defensive Information Operations, exists to counter a wide variety of threats in a Navy environment. ISSP activities cover all telecommunications systems, and RDT&E projects must provide protection, detection, and reaction capabilities to the operational commander. ISSP RDT&E provides dynamic risk managed IA solutions to the Navy Information Infrastructure, not just security devices placed within a network.
- (U) Few technology areas change as fast as telecommunications and computers, and IA must keep pace. This results in the continuing need to evaluate, develop, and/or test IA products and approaches. Technology base efforts include developing or applying: (1) new secure voice prototypes; (2) technology for a new family of programmable COMSEC and TRANSEC modules; (3) security appliances and software for switched and routed networks; (4) technology to interconnect networks of dissimilar classification, as either Multiple Security Level (MSL) or Multi-Level Security (MLS); (5) techniques for assuring code and data residing in and transiting the Navy's computing base and information store; and (6) PKI and associated access control technologies (such as SmartCards and similar security tokens).
- (U) The resulting expertise applies to a wide variety of Navy development programs that must integrate IA technology. Unlike traditional single-product development programs, the ISSP RDT&E holds a unique Navy-enterprise responsibility outlined in SECNAVINST 5239.3.

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				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N / BA-7	0303140N Information Systems Security Program (ISSP)	0734 Information Systems S	ecurity	

- (U) The ISSP RDT&E efforts must conclude with certified and accredited systems. This requires (1) Assured separation of information levels and user communities, including coalition partners; (2) Assurance of the telecommunications infrastructure; (3) Assurance of Joint user enclaves; (4) Assurance of the computing base and information store; and, (5) Supporting assurance technologies, including Public Key Infrastructure (PKI) and directories. To ensure interoperability and commercial standards compliance, these efforts often encompass the research, selective evaluation, integration, and test of Commercial off-the-shelf (COTS)/Non-developmental Item (NDI) IA security products. For example, evaluation may include defensible network boundary capabilities such as firewalls, secure routers and switches, guards, Virtual Private Networks (VPN), and misuse and network Intrusion Detection Systems (IDS).
- (U) The current operating environment has virtually eliminated the traditional distinction between telecommunications and information systems. Because IA is a cradle-to-grave enterprise-wide discipline, this program develops the technology and methodology to systems in development, production and operation, and develops the infrastructure needed to support and evaluate the security of deployed systems.
 - (U) The following describes several major ISSP technology areas:
- (U) Under the Navy Secure Voice (NSV) program, ISSP RDT&E assesses technology to provide high grade, secure tactical and strategic voice connectivity.
- (U) Under the Navy Security Management Infrastructure (SMI) program, ISSP RDT&E develops, evaluates, and applies new emerging technology and enhanced capabilities to the Electronic Key Management System (EKMS) and other Navy Information Systems. Additional efforts will focus on the architecture, design, and development of systems to manage the security parameters (i.e., cryptographic keys) necessary to the operation of the systems developed by the Secure Data and Secure Voice portions of the ISSP. This includes the application of PKI and Certificate Management Infrastructure (CMI) technology, and the development of improved techniques for key and certificate management to support emerging, embedded cryptographic technology.
- (U) Under the Secure Data program, efforts focus on architectures, designing, acquiring, demonstrating and integrating the IA technologies into Navy distributed information systems (e.g., Information Technology for the 21st Century (IT-21), new total ship computing environments, and the Navy Marine Corp Intranet (NMCI). This portion of the ISSP supports delivery of network security engineering expertise needed to stand-up the NMCI and securely deploy IT-21 constituent systems such as Advanced Digital Network System (ADNS), Global Command and Control System Maritime (GCCS-M) and Base Level Information Infrastructure (BLII). It includes activities to:
 - Ensure that USN IA systems and networks follow a consistent architecture and are protected against denial of service.
 - Ensure that all data within the USN Enterprise is protected in accordance with its classification and mission criticality.
 - Provide the ability to protect from, react to, and restore operations after an intrusion or other catastrophic event.
 - Enable dynamic throttling of services due to change in risk posture resulting from changing Information Operation Conditions (INFOCONs).
 - Defend against the unauthorized modification or disclosure of data sent outside enclave boundaries.
 - Provide a risk-managed means of selectively allowing essential information to flow across the enclave boundary.
 - Provide strong authentication of users sending or receiving information from outside their enclave.
 - Defend against the unauthorized use of a host or application.
 - Maintain configuration management of all hosts to track all patches and system configuration changes.
 - Ensure adequate defenses against subversive acts of trusted people and systems, both internal and external.

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 Provide a cryptographic infrastructure that Provide an intrusion detection, reporting operational situation awareness. 	at supports key, privilege and certificate management; and that enally, analysis, assessment, and response infrastructure that enables r	bles positive identification of rapid detection and reaction	individuals utilizing network services. to intrusions and other anomalous events, and that enables
(U) JUSTIFICATION FOR BUDGET ACTIVITY upgrade of existing, operational systems.	Y: This program is funded under OPERATIONAL SYSTEMS DEV	/ELOPMENT because it end	compasses engineering and manufacturing development for

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PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME	
303140N Information Systems Security Program (ISSP)	0734 Information Systems S	ecurity	
			DGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME 3140N Information Systems Security Program (ISSP) 0734 Information Systems Security

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Network Security Mission Capability Team (MCT)	6.286	2.613	2.963
RDT&E Articles Quantity			

FY03 Accomplishments include:

\$6.286- Continued to provide the broadest range of Information Assurance research across Joint, Fleet, and ashore networks. Applications include unclassified through TOP SECRET networks, while closely coordinating with TOP SECRET/SCI network requirements to ensure the broadest common solution. Provided robust design and evaluation for improved security product performance to accommodate higher speeds, more complicated architectures, and the ever-increasing threat. Focus becomes more and more on risk management approaches against state-sponsored network attack while preventing the nuisance disruption caused by the computer hacker community. Included close work, design review, and operational testing with the Fleet CINCs to ensure that the IA infrastructure is available to enforce evolving critical infrastructure protection policies, including support for Fleet Battle Experiments and other short-reaction demonstrations.

Major emphasis included early security design engineering of new ships, aircraft, and submarines to ensure that the reduced manning and greater operational dependency on networks. Provides for systems security engineering design, modeling, technical evaluations and designs, testing design and validation, and continuing COTS and GOTS evaluations and recommendations. Coordinates integration of secure design, testing, and products into new platforms and systems.

Design, modeling, and testing efforts are closely coordinated with the Joint Task Force – Computer Network Defense, the Defense Advanced Research Projects Agency, the new Commander, Naval Task Force – Navy Marine Corps Intranet, Commander, Naval Security Group Command, and the Fleet Information Warfare Center. Designed architectures and evaluated methods through the Information Assurance Technical Framework forum, the Internet Engineering Task Force, and other Information Assurance organizations.

For the first time, ISSP is applying IA engineering design, evaluation, and testing techniques from end-to-end, through base-band networks, RF communications links, and information source-to-sink to satisfy the IA element of maintaining availability. Includes Information Assurance appliances, software, and implementation techniques for policies such as IAVA requirements, INFOCON response, and USN firewall policy. This requires close engineering coordination with Information Operations activities, Exploit and Attack, to ensure coordination and fratricide prevention, network or RF path based. It includes engineering modeling and design of systems used in the isolation of network intrusion or attack from degradation caused by Electromagnetic Interference (EMI/RFI).

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	
RDT&E, N / BA-7	0303140N Information Systems Security Program (IS	SP)0734 Information Systems S	security
FY04 Plans include: \$2.613- Continue to design, development and Focusing on approaches and products agains and operational testing with the Fleet CINCs to and other short-reaction demonstrations. Cont submarines and systems. FY05 Plans include: \$2.963- Continue to provide the broadest rang closely coordinating with TOP SECRET/SCI n accommodate higher speeds, more complicate the reduced manning and greater operational and continuing COTS and GOTS evaluations engineering design, evaluation, and testing tee	d evaluation for improved security product performance to account state-sponsored network attack while preventing the nuisand one ensure that the IA infrastructure is available to enforce evolvitinue to provide security. & test design, modeling, validation and the evertine to ensure the broadest common solution, and the evertine ensure the broadest common solution, and architectures, and the evertine evaluation of the evertine evaluation of the evertine evaluation of the evertine evaluation of the evertine evaluation of the evertine evaluation of the evertine evaluation of the evertine evaluation of the evertine evaluation of the evertine evaluation of the evertine evaluation of the evertine evaluation of the evertine evaluation of the evertine evaluation of the evaluation of the evaluation evaluation of the evaluation evaluation of the evaluation evaluation of the evaluation evaluation of the evaluation evalua	commodate higher speeds, more ce disruption caused by the coming critical infrastructure protection integration engineering of net ashore networks. Applications in Provides design and evaluation crovide security design engineer neering design, modeling, techning, testing, and products into neommunications links, and inform	complicated architectures, and the ever-increasing threat. Includes product development ion policies, including support for Fleet Battle Experiments twork security COTS and GOTS into new ships, aircraft, include unclassified through TOP SECRET networks, while in for improved security product performance to ring of new ships, aircraft, and submarines to ensure that ical evaluations and designs, testing design and validation, ew platforms and systems. Continue to provide IA nation source-to-sink to satisfy the IA element of maintaining

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APPROPRIATION/BUDGET ACTIVITY	PROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NA								
RDT&E, N / BA-7	DT&E, N / BA-7 0303140N Information Systems Security Program (ISSP) 0734 Information Systems Se								
	FY 03	FY 04	FY 05	1					
Crypto MCT	4.873	4.765	3.957						
RDT&E Articles Quantity									

FY03 Accomplishments include:

\$4.873-Provided cryptographic products, including type-1 US only, allied and coalition, and commercial-off-the-shelf. Includes design, development, testing, and evaluation of link, network, session, data transfer devices, and associated equipments. Included design, integration, and testing of new cryptographic modules, USN-unique and USN-lead-service high-assurance algorithm software development, module hotel support, and protocol and control interface functions. Provided engineering design evolution for the supporting key management infrastructure, including the Electronic Key management System (EKMS Phase IV for Tier 0,1,2,3), Defense Messaging System (DMS) specific products, the DOD Public Key Infrastructure (DOD-PKI), and additional Certificate Management Infrastructures (CMI). Included design, evaluation, integration, and testing of key-related platforms, such as smart cards, and authentication mechanisms, such as biometric devices. Provided systems security engineering, test, evaluation, and development program support for organizations utilizing cryptographic equipments and associated keying systems. Provided continuous development coordination with the DoD PKI program office, the DON Smart Card office, the US Army biometrics program office, and the Information Systems Security Office at the National Security Agency. Provided specific design, testing, and evaluation assistance for new USN platforms and assists in defining embedded cryptographic product engineering requirements. Developed modeling, testing, and deployment evaluation of architectures supporting next-generation structures such as remote-keyed, gateways, "lights-out" facilities, and wireless devices. Includes architecture modeling, end-to-

end security analysis, and integration cryptographic products into USN platform specific architectures. FY 03 efforts included increased support for embedded cryptographic products in DD(X) and JTRS.

FY04 Plans include:

\$4.765- Continue to provide cryptographic products, including type-1 US only, allied and coalition, and commercial-off-the-shelf. Includes design, development, testing, and evaluation of link, network, session, data transfer devices, and associated equipments. Includes design, integration, and testing of new cryptographic modules, USN-unique and USN-lead-service high-assurance algorithm software development, module hotel support, and protocol and control interface functions. Provides continuous development coordination with the Information Systems Security Office at the National Security Agency. Provides specific design, testing, and evaluation assistance for new USN platforms and assists in defining embedded cryptographic product engineering requirements. Includes development, modeling, testing, and deployment evaluation of architectures supporting next-generation structures such as remote-keyed, gateways, "lights-out" facilities, and wireless devices. Includes architecture modeling, end-to-end security analysis, and integration cryptographic products into USN platform specific architectures. This year's efforts expanded to cover increased support for embedded cryptographic products in DD(X) and JTRS.

FY05 Plans Include:

\$3.957- Continue to provide cryptographic products, including type-1 US only, allied and coalition, and commercial-off-the-shelf. Includes design, development, testing, and evaluation of link, network, session, data transfer devices, and associated equipments. Includes design, integration, and testing of new cryptographic modules, USN-unique and USN-lead-service high-assurance algorithm software development, module hotel support, and protocol and control interface functions. Provides continuous development coordination with the Information Systems Security Office at the National Security Agency. Provides specific design, testing, and evaluation assistance for new USN platforms and assists in defining embedded cryptographic product engineering requirements. Includes development, modeling, testing, and deployment evaluation of architectures supporting next-generation structures such as remote-keyed, gateways, "lights-out" facilities, and wireless devices. Includes architecture modeling, end-to-end security analysis, and integration cryptographic products into USN platform specific architectures. This year's efforts expanded to cover increased support for embedded cryptographic products in DD(X) and JTRS.

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 8 of 43)

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NU	JMBER AND NAME	PROJECT NUMBER AND N	AME	
RDT&E, N / BA-7	0303140N Information Sys	stems Security Program (ISSP)	ecurity		
	FY 03	FY 04	FY 05		
Information Assurance Readiness MCT	2.222	0.276	0.313		
RDT&E Articles Quantity					
	<u> </u>	<u>-</u>	<u> </u>		

FY03 Accomplishments include:

\$2.222- Continued to provide systems security engineering support to all USN organizations in the certification and accreditation of information systems. A primary responsibility is the C&A for the Navy Marine Corps Intranet and various coalition networks. Involves work with all delivering USN systems to ensure secure networks before operational testing. C&A activities include networks, applications, sensors, and databases. Supported the Fleet Information Warfare Center (FIWC), the Naval Security Group Activity Pensacola, and the CTF-NMCI for continuing CNVA activities. Included the development and maintenance of USN infrastructure security policy. Includes systems security engineering, testing, and evaluation supporting other organizations during development of the Systems Security Accreditation Agreement (SSAA) and supporting activities of the Certification Authorities and Designated Accreditation Authorities during the DoD Information Technology Security Certification and Accreditation Process (DITSCAP). Includes development of network countermeasures tools (NVACM), in close coordination with the Naval Information Warfare Activity. Supports development of validation methods, including tools provided to the USN RED TEAMs and NMCI contract SLA validation teams.

FY04 Plans include:

\$0.276- Continue to provide systems security engineering support to all USN organizations in the certification and accreditation of information systems. A primary responsibility is the C&A for the Navy Marine Corps Intranet and various coalition networks. Involves work with all delivering USN systems to ensure secure networks before operational testing. C&A activities include networks, applications, sensors, and databases. Supports the Fleet Information Warfare Center (FIWC), the Naval Security Group Activity Pensacola, and the CTF-NMCI for continuing CNVA activities. Includes the development and maintenance of USN infrastructure security policy.

FY05 Plans include:

\$0.313- Continue to provide systems security engineering support to all USN organizations in the certification and accreditation of information systems. A primary responsibility is the C&A for the Navy Marine Corps Intranet and various coalition networks.

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NU	UMBER AND NAME	PROJECT NUMBER AND N	İAME					
RDT&E, N / BA-7	OT&E, N / BA-7 0303140N Information Systems Security Program (ISSP) 0734 Information Systems S								
	FY 03	FY 04	FY 05						
Secure Voice MCT	1.946	0.828	0.939						
RDT&E Articles Quantity									
		·							

FY03 Plans include:

\$1.946- Ensure information superiority through the use of encryption, authentication, and access control mechanisms over Navy mission essential voice circuits. This includes: (1) continued fielding of state of the art secure voice capabilities enabling secure point-to-point, netted, and conference connectivity, (2) ensuring interoperability with legacy secure voice systems, as well as interoperability with other services, agencies and coalition partners, (3) planning for future secure voice capabilities, both ashore and afloat, over tactical radio, data networks and telecommunications networks. Specific programs for FY03 include Secure Voice over Internet Protocal (SVoIP) Data Networks, Secure Voice Gateways and Inter-Working Functions (IWF), Tactical Radio Communication Security, Telecommunication Security, and finalizing efforts for Secure Voice for the 21st Centurty (SV-21) architectures.

FY 04 Plans Include:

\$0.828- Continue to design, develop 21st Century Secure Voice Architecture including Secure Voice over Internet Protocal (SVoIP) Data Networks, Secure Voice Gateways and Inter-Working Functions (IWF), Tactical Radio Communication Security, Telecommunication Security, and finalizing efforts for Secure Voice for the 21st Centurty (SV-21) architectures.

FY05 Plans Include:

\$0.939- Continue development and begin prototype integration of 21st Century Secure Voice Architecture including Secure Voice over Internet Protocal (SVoIP) Data Networks, Secure Voice Gateways and Inter-Working Functions (IWF), Tactical Radio Communication Security, Telecommunication Security, and finalizing efforts for Secure Voice for the 21st Centurty (SV-21) architectures.

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APF	PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	IBER AND NAME	PROJECT NUMBER AND N	ÎAME
RD	T&E, N / BA-7	0303140N Information Syste	ems Security Program (ISS	P) 0734 Information Systems S	Security
					1
		FY 03	FY 04	FY 05	
	Multiple Security Level MCT	0.738	0.845	0.959	
	RDT&E Articles Quantity				

FY03 Accomplishments include:

\$0.738- Continued to provides systems security engineering development, testing, and evaluation for multi-level security solutions, including complicated evaluations involving allied and coalition participation. Developed solutions to address operator interface, computing and storage, peripherals, access control and credentials, local area networks appliances, wide area networks appliances, and unique IA sensors. Involves substantial efforts ensuring interoperability across commercial and government standards. Included engineering of voice encoding standards ensuring interoperability between US and allied/coalition voice products. Includes integration of security requirements in the next generation Universal Mobile Telephone services, Generation 3.

FY04 Plans include:

\$0.845-Continue to provides systems security engineering development, testing, and evaluation for multi-level security solutions, including complicated evaluations involving allied and coalition participation to address emerging threats. Includes engineering of voice encoding standards ensuring interoperability between US and allied/coalition voice products. Continue to develop multi-level security architecture for data transfer services (i.e. E-mail, file sharing, collaboration at SEA for Network Operating Centers (NOC) and US/Coalition afloat platforms. Begin integration of MSL prototype architecture at NOC facilities. Includes integration of security requirements in the next generation Universal Mobile Telephone services, Generation 3.

FY05 Plans include:

\$.959- Continue to provides systems security engineering development, testing, and evaluation for multi-level security solutions, including complicated evaluations involving allied and coalition participation. Continued to examine multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Continue to develop and integrate MSL prototype architecture at NOC facilities.

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FY 03 FY 04 FY 05 Key Management Infrastructure MCT 4.912 5.551	EXHIBIT R-2a, RDT&E Project Justifica	tion			DATE:
T&E, N / BA-7 0303140N Information Systems Security Program (ISSP) 0734 Information Systems Security					
Key Management Infrastructure MCT RDT&E Articles Quantity FY04 FY05 4.912 5.551 FY04 Plans include: \$4.912 Serves to streamline the method for developing effective secure symmetric and asymmetric cryptographic key and generation, distribution, management, and usage products and services by identifying and prioritizing fleet requirements. Provides engineering design evolution for the supporting key management infrastructure, including the Electronic Key management System (EKM Phase IV for Tier 0,1,2,3), Defense Messaging System (DMS) specific products, the DOD Public Key Infrastructure (DOD-PKI), and additional Certificate Management Infrastructures (CMI). Included design, evaluation, integration, and testing of key-related platforms, such as smart cards, and authentication mechanisms, such as biometric devices. Provides systems security engineering, test, evaluation, and development program support for organizations utilizing cryptographic equipments and associated keying systems. Specific projects include: (1) Afloat and OCONUS DoD Class 3 PKI, (2) Current Class 4 (X.509) PKI for Organizational Secure Messaging, (3) EKMS Common Tier 1 (CT1), (4) EKMS Tier 2/3, and (5) Key Management Infrastructure (KMI). FY05 Plans include: \$5.551- Continue to streamline the method for developing effective secure symmetric and asymmetric cryptographic key and generation, distribution, management, and usage products and service by identifying and prioritizing fleet requirements. Provides engineering design evolution for the supporting key management infrastructure, including the Electronic Key management System (EKM Phase IV for Tier 0,1,2,3), Defense Messaging System (DMS) specific products, the DOD Public Key Infrastructure (DOD-PKI), and additional Certificate Management Infrastructures (CMI). Includesign, evaluation, integration, and testing of key-related platforms, such as smart cards, and authentication mechanisms. Specific projects include: (1) Afloat and OCONUS DoD Class 3 evaluation, integration, and testing of k	PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUME	BER AND NAME	PROJECT NUMBER AND NAM	IE .
Key Management Infrastructure MCT RDT&E Articles Quantity FY04 Plans include: \$4.912 5.551 FY04 Plans include: \$4.912-Serves to streamline the method for developing effective secure symmetric and asymmetric cryptographic key and generation, distribution, management, and usage products and services by identifying and prioritizing fleet requirements. Provides engineering design evolution for the supporting key management infrastructure, including the Electronic Key management System (EKM Phase IV for Tier 0,1,2,3), Defense Messaging System (DMS) specific products, the DOD Public Key Infrastructure (DOD-PKI), and additional Certificate Management Infrastructures (CMI). Includesign, evaluation, integration, and testing of key-related platforms, such as smart cards, and authentication mechanisms, such as biometric devices. Provides systems security engineering, test, evaluation, and development program support for organizations utilizing cryptographic equipments and associated keying systems. Specific projects include: (1) Afloat and OCONUS DoD Class 3 PKI, (2) Current Class 4 (X.509) PKI for Organizational Secure Messaging, (3) EKMS Common Tier 1 (CT1), (4) EKMS Tier 2/3, and (5) Key Management Infrastructure (KMI). FY05 Plans include: \$5.551- Continue to streamline the method for developing effective secure symmetric and asymmetric cryptographic key and generation, distribution, management, and usage products and service by identifying and prioritizing fleet requirements. Provides engineering design evolution for the supporting key management infrastructure, including the Electronic Key management System (EKM Phase IV for Tier 0,1,2,3), Defense Messaging System (DMS) specific products, the DOD Public Key Infrastructure (DOD-PKI), and additional Certificate Management Infrastructures (CMI). Includesign, evaluation, integration, and testing of key-related platforms, such as smart cards, and authentication mechanisms, such as biometric devices. Provides systems security engineering, test, evaluation, integration,	T&E, N / BA-7	0303140N Information System	ns Security Program (IS	SP) 0734 Information Systems Secu	urity
Key Management Infrastructure MCT RDT&E Articles Quantity FY04 Plans include: \$4.912 5.551 FY04 Plans include: \$4.912-Serves to streamline the method for developing effective secure symmetric and asymmetric cryptographic key and generation, distribution, management, and usage products and services by identifying and prioritizing fleet requirements. Provides engineering design evolution for the supporting key management infrastructure, including the Electronic Key management System (EKM Phase IV for Tier 0,1,2,3), Defense Messaging System (DMS) specific products, the DOD Public Key Infrastructure (DOD-PKI), and additional Certificate Management Infrastructures (CMI). Includesign, evaluation, integration, and testing of key-related platforms, such as smart cards, and authentication mechanisms, such as biometric devices. Provides systems security engineering, test, evaluation, and development program support for organizations utilizing cryptographic equipments and associated keying systems. Specific projects include: (1) Afloat and OCONUS DoD Class 3 PKI, (2) Current Class 4 (X.509) PKI for Organizational Secure Messaging, (3) EKMS Common Tier 1 (CT1), (4) EKMS Tier 2/3, and (5) Key Management Infrastructure (KMI). FY05 Plans include: \$5.551- Continue to streamline the method for developing effective secure symmetric and asymmetric cryptographic key and generation, distribution, management, and usage products and service by identifying and prioritizing fleet requirements. Provides engineering design evolution for the supporting key management infrastructure, including the Electronic Key management System (EKM Phase IV for Tier 0,1,2,3), Defense Messaging System (DMS) specific products, the DOD Public Key Infrastructure (DOD-PKI), and additional Certificate Management Infrastructures (CMI). Includesign, evaluation, integration, and testing of key-related platforms, such as smart cards, and authentication mechanisms, such as biometric devices. Provides systems security engineering, test, evaluation, integration,		EV 03	EV 04	EV 05	
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evaluation, and development program support for organizations utilizing cryptographic equipments and associated keying systems. Specific projects include: (1) Afloat and OCONUS DoD Class 3	design, evaluation, integration, and testing of I	key-related platforms, such as smart of	cards, and authentication	n mechanisms, such as biometric de	evices. Provides systems security engineering, test,
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	-Ki, (2) Current Class 4 (X.509) PKI for Organ	iizational Secure Messaging, (3) EKM		i, (4) EKIVIS TIEL 2/3, and (5) Key IVIS	anagement innastructure (Kivir).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	on			DATE:
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	MBER AND NAME	PROJECT NUMBER AND	NAME
RDT&E, N / BA-7	0303140N Information Syste	ems Security Program (IS	SP) 0734 Information Systems	Security
	EV 00	FV 04	FV 05	
	FY 03	FY 04	FY 05	
Emerging Technology MCT		1.637	1.857	
RDT&E Articles Quantity				
-			•	
EV04 Plans include:				

\$1.637- Facilitates the transition and application of new technologies to Navy Information Assurance challenges. Emphasis will be placed on providing R&D support for programs that are identified by the product mission capability teams as their highest priorities, and on increasing the speed of delivery of useful information assurance capabilities to fleet users. Specific areas of focus will include the following projects: (1) Secure Network Communications Including Coalition Applications, (2) Recognition and Prevention of Network Intrusions, (3) Convenient Wireless Applications with Adequate Security, (4) Synergistic Operation of IA and IO Functions, (5) Improved Access Control Using Biometrics, to include applications of commercially available biometrics technology to Navy logical and physical access problems, as well as applications that are now considered ready for larger scale implementation, and (6) Rapid Transition of Technology to the Fleet, in support of Fleet Battle Experiments, EC5G, TF WEB, Teleport, SCN and other transition opportunities.

FY05 Plans include:

\$1.857- Continue to support the transition and application of new technologies to Navy Information Assurance challenges. Emphasis will be placed on providing R&D support for programs that are identified by the product mission capability teams as their highest priorities, and on increasing the speed of delivery of useful information assurance capabilities to fleet users. Specific areas of focus will include the following projects: (1) Secure Network Communications Including Coalition Applications, (2) Recognition and Prevention of Network Intrusions, (3) Convenient Wireless Applications with Adequate Security, (4) Synergistic Operation of IA and IO Functions, (5) Improved Access Control Using Biometrics, to include applications of commercially available biometrics technology to Navy logical and physical access problems, as well as applications that are now considered ready for larger scale implementation, and (6) Rapid Transition of Technology to the Fleet, in support of Fleet Battle Experiments, EC5G, TF WEB, Teleport, SCN and other transition opportunities.

CLASSIFICATION:

IBIT R-2a, RDT&E Project Justification					DAT	February 2004
ROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NU	IMBER AI	ND NAME		PROJECT NUMBER AND NAME	
&E, N / BA-7	0303140N Information Sys				0734 Information Systems Securi	
	1000014014 IIIIOIIIIAIIOII Oyo	101110 000	ounty i rogram	(1001)	10704 Illionnation Gysteins Goodin	·y
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:	FY	2003	FY 2004	FY 2005		
President's Budget:	15	5.453	16.107	16.642		
Current BES/President's Budget	16	6.065	15.876	16.539		
Total Adjustments		0.612	-0.231	-0.103		
Summary of Adjustments						
Section 8100: Business Process Refo	orm -0	.062				
Section 8135: Economic Assumptions	s -0	.112				
Section 8109: IT Cost Growth	-0	.028				
Sec. 8094: Mgmt Improvements	(0.000	-0.042			
Section 8029: FFRDC Reduction		.021	-0.021			
Sec. 8126: Efficiencies/Revised Econ		0.000	-0.137			
SBIR Assessment	-	.144	0.000	0.000		
Inflation Savings		0.195	0.000	0.000		
Miscellaneous Department Adjustments		0.000	0.000	0.000		
Miscellaneous Navy Adjustments		1.180	-0.031	-0.062		
P07 technical Adjustment		0.000	0.000	-0.008		
Fed Tech Transfer		0.006	0.000	0.000		
PBD 430 - WCF - R&D		0.000	0.000	-0.013		
PBD 426 - Rates - SSC		0.000	0.000	0.033		
PBD 604 - Inflation		0.000	0.000	-0.053		
Subtotal		0.612	-0.231	-0.103	•	
(U) Schedule:						
(U) Technical:						

CLASSIFICATION:

(HIBIT R-2a, RDT&E Project Justification								DATE:	Februa	ry 2004
PROPRIATION/BUDGET ACTIVITY		PROGRAM EI	EMENT NUM	BER AND NAN	ΛE	PROJECT NU	MBER AND N	IAME		•
DT&E, N / BA-7		0303140N Info	ormation Syste	ms Security Pr	ogram (ISSP)	0734 Informati	on Systems S	Security		
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	To <u>Cost</u>	Total
OPN 3415 Info Sys Security Program (ISSP) OMN 4A6M Info Sys Security Program (ISSP)	83.941 15.446	81.213 18.102	88.418 13.006	112.601 11.944	122.542 12.137	118.239 12.443	118.457 12.755	Continued Continued	Continued Continued	
(U) E. ACQUISITION STRATEGY: *										
N/A.										

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	ge 1)										February 200	04	
APPROPRIATION/BUDGET ACTIV	/ITY	PRO	GRAM ELEN	/IENT			PROJECT NU	JMBER AND N	NAME				
RDT&E, N / BA-7		0303140N Information Systems Security Program (ISS			ogram (ISSP)	0734 Informat	ion Systems S	Security					
Cost Categories	Contract Method & Type	Performing Activity & Location	To PY Co	's	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPFF	VIASAT, San Diego	CA	7.282							0.000	7.282	7.282
Primary Hardware Development	C/MIPR	MITRE, San Diego,	CA	3.660	0.916	12/02	0.946	12/03	0.973	12/04	Continuing	Continuing	
Primary Hardware Development	C/CPAF	Motorola, Scottsdale	, AZ	2.782	2.674	12/02	1.315	12/03	1.354	12/04	Continuing	Continuing	
Primary Hardware Development	C/VAR	Various		60.936	2.313	VAR	2.386	VAR	2.457	VAR	Continuing	Continuing	
Systems Engineering	C/VAR	Various		33.045	6.694	VAR	7.652	VAR	8.072	VAR	Continuing	Continuing	J
Subtotal Product Development				107.705	12.597	7	12.299		12.856		Continuing	Continuing	

Remarks:

FY 03 \$1.5M BTR for MCS contract Motorola/GDDS contract.

Software Development	CPAF	SAIC, San Diego, CA	32.877							0.000	32.877	42.590
Software Development	C/WX	NRL, Washington D.C.		0.067	10/02	0.078	10/03	0.083	10/04	Continuing	Continuing	
Subtotal Support			32.877	0.067		0.078		0.083		Continuing	Continuing	

Remarks: SAIC target Value of contract includes other service's funding (ARMY RDT&E).

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (p	age 2)										February 200	04	
APPROPRIATION/BUDGET ACT	IVITY		PROGRAM ELEMEI	NT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0303140N Information	on Syster	ms Security Pr	ogram (ISSP)	0734 Informa	tion Systems S	Security				
Cost Categories	Contract	Performing	Total			FY 03		FY 04		FY 05			
	Method	Activity &	PY s		FY 03	Award	FY 04	Award		Award	Cost to	Total	Target Value
	& Type	Location	Cost		Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	VAR	Various		9.793	3.200	Various	3.302	2 Various	3.399	Various	Continuing	Continuing	Continuing
0.14441.705				0.700	0.000		0.000		0.000		O continuits of	Continuin	
Subtotal T&E		<u> </u>		9.793	3.200	<u> </u>	3.30	<u> </u>	3.399		Continuing	Continuing	
Program Management Support	VAR	Various		4.203	0.201	Various	0.19	7 Various	0.201	Various	Continuing	Continuing	Continuing
Subtotal Management				4.203	0.201		0.19	7	0.201		Continuing	Continuing	
Remarks:													
Total Cost				154.578	16.065	;	15.87	6	16.539		Continuing	Continuing	
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule Pr																									DATE		Fe	ebrua	ry 20	04		
APPROPRIATION/BUDGET A RDT&E, N / BA-7	CTIVI	TY												R AND Securi			icen)				PROJ 0734											
Fiscal Year		20	02			200)3		03031	20		ilion 3 ₃	/sterris	200		giaiii (1337)	20	06		0734	20		iysteri	IS SECT		08			200)9	
FISCAI Year	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition * Milestones					EKMS	S Tier 1		EKMS FOC	Tier 1																							
Test & Evaluation Milestones Development Test Operational Test							C	CS apabilit	y 1		MCS Capab	oility 2	Cert	MCS Full (S Capabi	ility Ce	ert															
Production Milestones MCS/KO-9 Capability Delivery				S Del	ivery 1	24	CS De √3A apabili	-	MCS 2B/3	S Deliv BB Cap	very pability		MCS I Capab	Delivery bility	/ 4																	
Deliveries																																

^{*} Note: MCS Deliveries support the MCS Capability Certifications

CLASSIFICATION:

Exhibit R-4a, Schedule Detail							ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&E, N / BA-7	0303140N Info	ormation Syster	ms Security Pro	ogram (ISSP)	0734 Informati	ion Systems Se	ecurity	
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
EKMS Tier 1 Developmental Testing (GAT)								
EKMS Tier 1 Operational Testing		1Q						
EKMS Tier 1 IOC		1Q						
EKMS Tier 1 FOC		4Q						
Multifunctional Crypto System (MCS) Capability 1 Cert.		4Q						
Multifunctional Crypto System (MCS) Capability 2 Cert. Multifunctional Crypto System (MCS) Full Capability Cert.			3Q	1Q				
Multifunctional Crypto System (MCS) Delivery 1		2Q						
Multifunctional Crypto System (MCS) Delivery 2A Multifunctional Crypto System (MCS) Delivery 3A-1		4Q 4Q						
Multifunctional Crypto System (MCS) Delivery 3A-2 Multifunctional Crypto System (MCS) Delivery 3A-3		4Q 4Q						
Multifunctional Crypto System (MCS) Delivery 3B		70	1Q					
Multifunctional Crypto System (MCS) Delivery 2B Multifunctional Crypto System (MCS) Delivery 4			1Q 4Q					
_								
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	ıary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	LEMENT NUME	BER AND NAM	IE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0303140N Infe	ormation Syster	ms Security Pro	gram (ISSP)		0734 Informat	ion Assurance				
	Prior										Total
COST (\$ in Millions)	Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost	0.000		4.090	2.271	2.137	2.102	2.049	2.197	2.149	Continuing	Continuing
RDT&E Articles Qty											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The goal of the Navy Information Systems Security Program (ISSP) is to ensure the continued protection of navy and joint information and information systems from hostile exploitation and attack. ISSP activities address the triad of Defense Information Operations: protection, detection, and reaction. Evolving attack sensing (detection), warning, and response (reaction) responsibilities extend far beyond the traditional ISSP role in protection or Information Systems Security (INFOSEC). Focused on the highly mobile forward-deployed subscriber, the US Navy's adoption of Network-Centric Warfare (NCW) places demands upon the ISSP, as the number of users explodes and the criticality of their use escalates. Today, the ISSP protects an expanding core of services critical to the effective performance of the Navy's mission.

The rapid rate of change in the underlying commercial and government information infrastructures makes the provision of security an increasingly complex and dynamic problem. Information Assurance (IA) technology mix and deployment strategies must evolve quickly to meet rapidly evolving threats and vulnerabilities. No longer can information security divorce the information infrastructure. The ISSP enables the Navy's war fighter to trust in the availability, integrity, authentication, privacy, and non-repudiation of information.

This project includes funds for advanced technology development, test and evaluation of naval information systems security based on leading edge technologies that will improve information assurance (e.g., situational awareness and information infrastructure protection) across all Command echelons to tactical units afloat and war fighters ashore. This effort will provide the research to develop a secure seamless interoperable, common operational environment of networked information systems in the battlespace and for monitoring and protecting the information infrastructure from malicious activities. This effort will provide Naval Forces a secure capability and basis in its achievement of protection from unauthorized access and misuse, and optimized IA resource allocations in the information battlespace. This program will also develop core technology to improve network infrastructure resistance and resiliency to attacks; enable the rapid development and certification of security-aware applications and information technologies in accordance with the Common Criteria for IA and IA-Enabled information technology products by the National Security Telecommunications and Information Systems Security Instructions; and measure the effectiveness and efficiency of IA defensive capabilities under Naval environments.

A Memorandum of Agreement (MOA) was signed in FY01 between the Office of Naval Research Department of Information, Electronics & Surveillance (ONR31) and Office of the Chief of Naval Operations, Directorate of Space, Information Warfare, Command and Control, Information Warfare Division (N64), and provides for interagency coordination with ONR, N64, and SPAWAR (PMW161) in pursuance of this effort.

This Project under Program Element 0303140N is a restructuring with the transfer of responsibility from SPAWAR to ONR in FY 2003 for prototyping IA concepts.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NA	AME	
RDT&E, N / BA-7	0303140N Information Systems Security Program (ISSP)	0734 Information Assurance		
		•	•	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Software and Systems Research	4.090	2.271	2.137
RDT&E Articles Quantity			

The program will develop common architectural frameworks that facilitate integration of network security capabilities, enable effective seamless interoperation, and contribute to a common consistent picture of the networked environment with respect to information assurance and security. This effort will address the need for a common operational picture for IA, as well as assessment of security technology critical to the success of the mission. Initiate requirements definition for situation awareness capabilities to support computer network defense in highly distributed, homogeneous, and heterogeneous networks including mobile and embedded networked devices. This effort also includes the architectural definition of situational awareness and visualization capabilities to support active computer network defense and support underlying data mining and correlation tools. This includes addressing the capability to remotely manage and securely control the configurations of network security components to implement changes in real time or near real time. Initiate requirements definition for secure coalition data exchange and interoperation among security levels and classifications. Ensure approaches address various security level technologies as well as emerging architectural methods of providing interoperability across different security levels. Examine multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Initiate infrastructure protection efforts as the Navy develops network centric architectures and warfare concepts, ensuring an evolutionary development of security architectures and products for IA that addresses Navy infrastructure requirements. Ensure the architectures evolve to provide proper protection as technology, DOD missions, and the threat all evolve. Include defensive protections as well as intrusion monitoring (sensors), warning mechanisms, and response capabilities in the architecture. Ensure the unique security and performance requirements of tactical

CLASSIFICATION:

HIBIT R-2a, RDT&E Project Justification				DATE:	February 2004
PROPRIATION/BUDGET ACTIVITY PR	OGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NAME	rebluary 2004
	03140N Information Systems S		n (ISSP)	0734 Information Assurance	
Tac, N7 BA 7	5514014 Illiottilation Gystems G	ccurry r rogran	1 (1001)	0734 Illioiniation Assurance	
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2003	FY 2004	FY 2005		
President's Budget:	2.983	2.297	2.548		
Current BES/President's Budget	4.090	2.271	2.137		
Total Adjustments	1.107	-0.026	-0.411		
Summary of Adjustments					
Section 8100: Business Process Reform	-0.012				
Section 8135: Economic Assumptions	-0.024				
Section 8109: IT Cost Growth	-0.005				
Inflation Savings	-0.038				
Miscellaneous Department Adjustment	0.000				
Miscellaneous Navy Adjustment	1.186		-0.004		
Sec. 8094: Mgmt Improvements		-0.006			
Sec. 8126: Efficiencies/Revised Econ Ass	umptions	-0.020			
SEA Enterprise (LOE)			-0.400		
PBD 604 - Inflation			-0.007		
Subtotal	1.107	-0.026	-0.411		
4004					
(U) Schedule:					
N/A.					
(U) Technical:					
N/A					
1 1// 1					

CLASSIFICATION:

IIBIT R-2a, RDT&E Project Justification								DATE:	Februa	ry 2004
ROPRIATION/BUDGET ACTIVITY		PROGRAM EI	EMENT NUM	BER AND NAN	ИE	PROJECT NU	MBER AND N	IAME	. 00.44	.,
&E, N / BA-7		0303140N Info	rmation Syste	ms Security Pr	ogram (ISSP)	0734 Informa	tion Assurance	Э		
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	To <u>Cost</u>	Total
OPN 3415 Info Sys Security Program (ISSP) OMN 4A6M Info Sys Security Program (ISSP)	83.941 15.446	81.213 18.102	88.418 13.006	112.601 11.944	122.542 12.137	118.239 12.443	118.457 12.755	Continued Continued	Continued Continued	
(U) E. ACQUISITION STRATEGY: *										
N/A.										
* Not required for Budget Activities 1,2,3, and 6										

CLASSIFICATION:

										DATE:				
Exhibit R-3 Cost A APPROPRIATION/BU	nalysis (page 1)											February 20	04	
				PROGRAM E				PROJECT NU	JMBER AND I	NAME				
RDT&E, N /	BA-7			0303140N Inf	ormation Syste	ms Security Pro		0734 Informa	ition Assuranc	e				
Cost Categories	Cont	ract P	erforming		Total		FY 03		FY 04		FY 05			
	Meth	od A	ctivity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Ty	pe Lo	ocation		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Hardware Developmer	nt												0.000)
										-				
Subtotal Product Develo	opment				0.000	0.000		0.000)	0.000			0.000	
Software Development	C/W	(N	RL, Washing	on D.C.	0.000	4.090	10/02	2.271	10/03	2.137	10/04	Continuing	Continuing	ı
Cultitatal Cuma aut					0.000	4.000		0.074		0.40		Cantinuin	Continuina	
Subtotal Support					0.000	4.090		2.271		2.137		Continuing	Continuing	Щ
D														
Remarks:														
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CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pa	ge 2)										February 20	04	
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E	LEMENT			PROJECT NU	JMBER AND	NAME		· · · · · · · · · · · · · · · · · · ·		
RDT&E, N / BA-7			0303140N Inf	ormation Syste	ms Security Pr	ogram (ISSP)	0734 Informa	ation Assuranc	e				
Cost Categories	Contract	Performing	-	Total	T ,	FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation												0.00	
·													
													+
													+
					1								
Subtotal T&E				0.000	0.000		0.000)	0.00)		0.00	0
								1		- 1			
Program Management Support												0.00	0
													1
													1
Subtotal Management				0.000	0.000		0.000)	0.00	0		0.00	0
Remarks:													
Total Cost				0.000	4.090		2.271		2.13	7	Continuing	Continuin	g
Remarks:													

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	ary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUME	BER AND NAM	IE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0303140N Info	ormation Syster	ns Security Pro	gram (ISSP)		9280 KG-40A I	Modernization	Program			
	Prior										Total
COST (\$ in Millions)	Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost	0.000		1.264	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.264
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Congressional plus-up for Navy's Cryptographic KG-40A Modernization/Replacement Program. Provides for the design and development of a integrated solution for Navy's KG-40A crypto device replacement. The Department of the Navy (DON) cryptographic equipment inventory system does not have sufficient quantities of KG-40A crypto devices to satisfy the current and future requirements for Navy, Marine Corps, Army, and Air Force programs, and Allied Interoperability initiatives. Because of obsolete parts, the existing components are no longer manufactured or supported by industry. There are insufficient assets available in inventory to support the unfulfilled requirements to provide for Crypto sustainment. The Congressional plus up will provide for the design and development of the best low cost solutions for replacing existing crypto devices. In addition, the proposed add will facilitate the development of next generation cryptos to replace aging legacy equipment and support the network centric communications architecture.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

CLASSIFICATION:

			DATE:	
				February 2004
APPROPRIATION/BUDGET ACTIVITY PRO	ROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME	
RDT&E, N / BA-7	303140N Information Systems Security Program (ISSP)	9280 KG-40A Modernization	Program	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Cryptographic KG-40A Modernization	1.264	0.000	0.000
RDT&E Articles Quantity			

Congressional plus-up for Navy's Cryptographic KG-40A Modernization/Replacement Program. Provides for the design and development of a integrated solution for Navy's KG-40A crypto device replacement. The Department of the Navy (DON) cryptographic equipment inventory system does not have sufficient quantities of KG-40A crypto devices to satisfy the current and future requirements for Navy, Marine Corps, Army, and Air Force programs, and Allied Interoperability initiatives. Because of obsolete parts, the existing components are no longer manufactured or supported by industry. There are insufficient assets available in inventory to support the unfulfilled requirements to provide for Crypto sustainment. The Congressional plus up will provide for the design and development of the best low cost solutions for replacing existing crypto devices. In addition, the proposed add will facilitate the development of next generation cryptos to replace aging legacy equipment and support the network centric communications architecture.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE:					
					Feb	ruary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME	AME			
RDT&E, N / BA-7	0303140N Information Systems S	ecurity Progran	Program			
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:	FY 2003	FY 2004	FY 2005			
Previous President's Budget:	0.000	0.000	0.000			
Current BES/President's Budget	1.264	0.000	0.000			
Total Adjustments	1.264	0.000	0.000			
Summary of Adjustments						
Congressional Add KG-40 Modernization	1.300					
Inflation Savings	-0.030					
SBIR Assessment	-0.006					
Subtotal	1.264	0.000	0.000			
(U) Schedule:						
N/A						
(U) Technical:						
N/A						
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE:									
	February 2004									
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT NUM	BER AND NAM	ΛE	PROJECT NU	MBER AND N				
RDT&E, N / BA-7		0303140N Info	303140N Information Systems Security Program (ISSP)				Modernization	Program		
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
(a) bi a mentioni minate a similariti									То	Total
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost	
OPN 3415 Info Sys Security Program (ISSP)	83.941	81.213	88.418	112.601	122.542	118.239	118.457	Continued	Continued	
, , ,	15.446	18.102	13.006	11.944	12.137	12.443	12.755	Continued	Continued	
(U) E. ACQUISITION STRATEGY: *										

The Navy intends to hold an open competition and award of an RD contract to provided an integrated solution for the KG-40A replacement at the best value to the government (lowest development/per unit/risk) that can be obtained.

^{*} Not required for Budget Activities 1,2,3, and 6

CLASSIFICATION:

			PROJECT NI	IMPED AND			February 20	04							
0303140N Information			PROJECT NI	IMPED AND				February 2004							
		APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT RDT&E, N / BA-7 0303140N Information Systems Security Program						PROJECT NUMBER AND NAME							
Total	Systems Sec	urity Progra	n 9280 KG-40	9280 KG-40A Modernization Program											
		FY 03		FY 04		FY 05									
PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract						
Cost	Cost	Date	Cost	Date	Cost	Date	Complete	0.000	1						
								0.000							
								0.000							
								0.000							
								0.000							
	1.081	02/04						1.081							
	1.001	02/04						0.000							
								0.000							
								0.000							
								0.000							
								0.000							
0.00	00 1.081		0.000		0.000		0.000								
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0.00	0.000)	0.000		0.000)	0.000	0.000							

CLASSIFICATION:

								DATE:	DATE:						
Exhibit R-3 Cost Analysis (page 2)							February 2004								
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT							PROJECT NUMBER AND NAME								
RDT&E, N / BA-7			ON Information S	Systems Sec		an 9280 KG-	40A Moderi	nization Prog							
Cost Categories	Contract	Performing	Total	E) (00	FY 03	5101	FY 04	57.05	FY 05		-				
	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract			
Developmental Test & Evaluation	и туре	Location	COST	COSt	Date	Cost	Date	COSt	Date	Complete	0.000	or Contract			
Operational Test & Evaluation											0.000				
Live Fire Test & Evaluation											0.000				
Test Assets											0.000				
Tooling											0.000				
GFE											0.000				
Award Fees											0.000				
Subtotal T&E			0.000	0.000		0.0	00	0.1	000	0.000	0.000				
Subtotal T&E			0.000	0.000	′1	0.0	00	0.0	000	0.000	0.000				
Contractor Engineering Support	C/WX	SSC San Diego, CA		0.183	02/03						0.183				
Government Engineering Support											0.000				
Program Management Support											0.000				
Travel											0.000				
Transportation											0.000				
SBIR Assessment											0.000				
Subtotal Management			0.000	0.183	3	0.0	00	0.0	000	0.000	0.183				
Remarks:															
Total Cost			0.000	1.264	1	0.0	00	0.0	000	0.000	1.264				
Remarks:			·					•							

CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	ary 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT NUM	BER AND NAM	IE		PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0303140N Info	rmation Syster	ns Security Pro	gram (ISSP)		9281 Intelligen	t Agent Securit	y Module (IASI	M)		
	Prior										Total
COST (\$ in Millions)	Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost	0.000		4.314	5.439	0.000	0.000	0.000	0.000	0.000	0.000	9.753
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Congressional plus-up for Navy's Intelligent Agent Security Module (IASM). Continued research and development for Small Business Research Initiative (SBIR Phase 2) for a network wide Intrusion Detection System (IDS) (referred to as Naval Intelligent Agent Secure Module (NIASM)) which monitors existing sensors and devices to include Firewalls, Virtual Private Network (VPN) servers, and Information Decision Systems (IDS). The IASM is intended to enhance network security by correlating information from multiple security products and deriving a concise, accurate assessment of malicious actions and unauthorized use. In addition the IASM will provide network administrators with recommended response actions in order to terminate attacks. The IASM is intended for deployment at tactical Network Operation Centers, Shipboard, and at the Fleet Information Warfare Center.

U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME	
RDT&E, N /BA-7	0303140N Information Systems Security Program (ISSP)	9281 Intelligent Agent Secur	ity Module (IASM)	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Intelligent Agent Security Module (IASM)	4.314	5.439	0.000
RDT&E Articles Quantity			

FY 03 Accomplishments Include:

\$4.314- Congressional plus-up for Navy's Intelligent Agent Security Module (IASM). Continued research and development for Small Business Research Initiative (SBIR Phase 2) for a network wide Intrusion Detection System (IDS) (referred to as Naval Intelligent Agent Secure Module (NIASM)) which monitors existing sensors and devices to include Firewalls, Virtual Private Network (VPN) servers, and Information Decision Systems (IDS). The IASM is intended to enhance network security by correlating information from multiple security products and deriving a concise, accurate assessment of malicious actions and unauthorized use. In addition the IASM will provide network administrators with recommended response actions in order to terminate attacks. The IASM is intended for deployment at tactical Network Operation Centers, Shipboard, and at the Fleet Information Warfare Center.

FY 04 Plan includes:

\$5.439- Continue to develop network wide Intrusion Detection System (IDS) (referred to as Naval Intelligent Agent Secure Module (NIASM)). Continue to develop a hierarchal data monitoring and analysis system to support the design of a Global Navy, Base Level Information Infrastructure security assurance grid. Efforts will include independent operational and performance tests to verify the system hardness in a military ship-at-sea environment. In addition, FY04 efforts will be directed will to resolve critical design issues to meet IASM Build 1.0 shore system integration readiness and certify shore Network Operating Center system security integration at Information Assurance test facilities.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
	ROGRAM ELEMENT NUMBER			PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	303140N Information Systems S	ecurity Program	n (ISSP)	9281 Intelligent Agent Security Module (IASM))
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	0.000	0.000	0.000		
Current BES/President's Budget	4.314	5.439	0.000		
Total Adjustments	4.314	5.439	0.000		
Summary of Adjustments					
Congressional Add IASM	4.500	5.500	0.000		
Inflation Savings	-0.057				
Sec. 8100: Business Process Reform	-0.016				
Sec. 8109: IT Cost Growth	-0.007				
Inflation Savings	-0.030				
Sec. 8094: Mgmt Improvements	0.000	-0.014	0.000		
Sec. 8126: Efficiencies/Revised Econ Ass		-0.047	0.000		
SBIR Assessment	-0.076	0.000	0.000		
Subtotal	4.314	5.439	0.000		
(I) O I = I I =					
(U) Schedule:					
N/A					
(U) Technical:					
N/A					
IV/A					
	R-1 SHOPP	INIC LIST - I	tom No	191	

CLASSIFICATION:

HIBIT R-2a, RDT&E Project Justification DATE: February 2004													
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	EMENT NUM	BER AND NAM	ИE	PROJECT NU	MBER AND N	AME					
RDT&E, N / BA-7		0303140N Info	ormation Syste	ms Security Pr	ogram (ISSP)	9281 Intelliger	nt Agent Secur	ity Module (IAS	SM)				
					-3 - ()	1 3	3	,	,				
(U) D. OTHER PROGRAM FUNDING SUMMARY:									_				
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	To <u>Cost</u>	Total			
OPN 3415 Info Sys Security Program (ISSP) OMN 4A6M Info Sys Security Program (ISSP)	83.941 15.446	81.213 18.102	88.418 13.006	112.601 11.944	122.542 12.137	118.239 12.443	118.457 12.755	Continued Continued	Continued Continued				
(U) E. ACQUISITION STRATEGY: *													
The Navy intends to continue IASM developme	ent on existin	g RD contract w	ith Promia, Inc	.									
* Not required for Budget Activities 1,2,3, and 6													

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pa	ge 1)										February 20	04	
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E				PROJECT N	JMBER AND	NAME				
RDT&E, N / BA-7			0303140N Info	ormation Syste	ms Security Pr		9281 Intellige		rity Module (IAS				
Cost Categories	Contract	Performing		Total	E)/ 00	FY 03	EV 04	FY 04	E)/ 05	FY 05	0	Total	T()/-1
	Method & Type	Activity & Location		PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	а туре	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	0.000	
Ancillary Hardware Development												0.000	
Aircraft Integration												0.000	
Ship Integration												0.000	
Ship Suitability												0.000	
Systems Engineering	C/CPAF	PROMIA, Inc		0.000	3.415	09/03	4.639	01/04				8.054	
Training Development												0.000	
Licenses												0.000	
Tooling												0.000)
GFE												0.000)
Award Fees												0.000)
Subtotal Product Development				0.000	3.415	;	4.639	9	0.000)	0.000	8.054	1
Development Support												0.000)
Software Development												0.000	
Integrated Logistics Support												0.000	
Configuration Management												0.000	
Technical Data												0.000	
Studies & Analyses												0.000)
GFE												0.000	
Award Fees												0.000	
Subtotal Support				0.000	0.000		0.000)	0.000)	0.000	0.000	
Remarks:													
				P-1 SHOE	PPING LIST	- Item No	191						

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	je 2)										February 200)4	
APPROPRIATION/BUDGET ACTIV	ÎTY	PROGRAM	ELEMENT				PROJECT NU	MBER AND N	NAME		-		
RDT&E, N / BA-7		0303140N	Information S	ystem	s Security Pro	ogram (ISSP)	9281 Intelliger	it Agent Secur	rity Module (IAS	iM)			
Cost Categories	Contract	Performing	Total			FY 03		FY 04		FY 05			
	Method	Activity &	PY s		FY 03			Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost		Cost	Date		Date	Cost	Date	Complete		of Contract
Developmental Test & Evaluation	WX	SSC Charleston, SC		.000	0.449		0.400	12/03				0.849	
Developmental Test & Evaluation	WX	SSC San Diego, CA	0	.000	0.450	01/03	0.400	12/03				0.850	
Live Fire Test & Evaluation												0.000	
Test Assets												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal T&E			0	0.000	0.899		0.800		0.000		0.000	1.699	
Contractor Engineering Support												0.000	
Government Engineering Support												0.000	
Program Management Support												0.000	
Travel												0.000	
Transportation												0.000	
SBIR Assessment												0.000	
Subtotal Management			C	0.000	0.000		0.000		0.000)	0.000	0.000	
Remarks:													
Total Cost			0	0.000	4.314		5.439		0.000		0.000	9.753	
Remarks:													

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	ary 2004	
APPROPRIATION/BUDGET ACTIVITY	AME										
RDT&E, N / BA-7	0303140N Info	ormation Syster	ns Security Pro	ogram (ISSP)		9430 SECURE	E Kit				
	Prior										Total
COST (\$ in Millions)	Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost	0.000		0.000	1.780	0.000	0.000	0.000	0.000	0.000	0.000	1.780
RDT&E Articles Qty											

- **(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** Congressional plus-up for Navy's SECURE Kit. Develop systems that will allow a user at a single workstation seat to access multiple security networks based on the user's access clearance and need to know. The web architecture-based solution will allow the user to access this information at the Navy enterprise level and eliminates the need to reconfigure networks and hardware when accessing one domain or another. In order to implement a fully enabled end-to-end network enterprise environment envisioned by the FORCEnet vision document, we have developed a component-based architecture called SECUREkit. SECUREkit will provide the necessary components to meet the Naval warfighter needs, which can be summarized as three.
- (1) Single points of entry anywhere on the network to any place on the network with complete transparency to the tiers of enterprise services.
- (2) Access from that single point to all appropriate security domains.
- (3) Provide the ability to dynamically, or on the fly, reconfigure the Multi-Level System (MLS) enterprise.

The evolvutionary the component architecture of the SECUREkit architecture is being accomplished through partnering efforts with the National Security Agency (NSA) and the PEO(C4l&Space). This architecture is made up of trusted servers, trusted pathways, and trusted clients. The goal of SECUREkit will be to make available to warfighters in the Global Information Grid Enterprise Services (GIG ES) all components to implementation their participation at Evaluated Assurance Level 6 (EAL6).

U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

CLASSIFICATION:

	EXHIBIT R-2a, RDT&E Project Justification			DATE:	
					February 2004
API	PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	MBER AND NAME	PROJECT NUMBER AND N	NAME
RD	T&E, N /BA-7	0303140N Information Syst	ems Security Program (ISSP	9430 SECURE Kit	
(U)	B. Accomplishments/Planned Program				_
		FY 03	FY 04	FY 05	
	Intelligent Agent Security Module (IASM)	0.000	1.780	0.000	
	RDT&E Articles Quantity				

FY 04 Plan includes:

\$1.780- Develop SECUREkit pathway components. Funds will provide for feasibility demonstration of components to develop possible solution for MSL. Funds are required to continue research, development, and test and evaluation of this promising MSL technology to be applied to future phases of the MSL spiral development. Current MSL systems do not meet all fleet requirements, thus further R&D is required to fulfill the need. Specifically, the need that SECUREkit intends to satisfy is a fully multiple-level security Navy enterprise capability. The pathway components are the next elements of this capability requiring development.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND N	LANAE	February 2004
					IAME	
RDT&E, N / BA-7	0303140N Information Systems S	Security Progran	n (ISSP)	9430 SECURE Kit		
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:	FY 2003	FY 2004	FY 2005			
Previous President's Budget:	0.000	0.000	0.000			
Current BES/President's Budget	0.000	1.780	0.000			
Total Adjustments	0.000	1.780	0.000			
Summary of Adjustments						
Congressional Add IASM	0.000	1.800	0.000			
Sec. 8094: Mgmt Improvements	0.000	-0.005	0.000			
Sec. 8126: Efficiencies/Revised Econ A	Assumption 0.000	-0.015	0.000			
Subtotal	0.000	1.780	0.000			
Custotal	0.000	1.700	0.000			
(U) Schedule:						
N/A						
(U) Technical:						
N/A						
		DINIO LIGT. 14		404		

CLASSIFICATION:

IBIT R-2a, RDT&E Project Just	DATE:	Februa	ry 2004								
ROPRIATION/BUDGET ACTIVITY			PROGRAM EL	EMENT NUM	BER AND NAM	ИΕ	PROJECT NU	IMBER AND N	AME	. 55144	.,
&E, N / BA-7	,		0303140N Information Systems Security Program (ISSP) 9430 SECURE Kit								
<u> </u>			00001101411110	mation Cyolo	ino Coodiny i i	ogram (ico:)	0100 020011	- 100			
(U) D. OTHER PROGRAM FUNDIN	IG SUMMARY:										
										То	Total
Line Item No. & Name	<u>FY</u>	2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost	
OPN 3415 Info Sys Security Pro	ogram (ISSP) 83.	.941	81.213	88.418	112.601	122.542	118.239	118.457	Continued	Continued	
OMN 4A6M Info Sys Security P		.446	18.102	13.006	11.944	12.137	12.443	12.755	Continued	Continued	
,	• ,										
(II) E ACQUIRITION STRATECY: *											
(U) E. ACQUISITION STRATEGY: *											
The Navy intends to continue IA	ASM development on	existing	RD contract w	ith Promia Inc	•						
The raty interior to continue in	tom dovolopmont on	O/MOM 19	, res contract w	itir i roma, mo							
* Not required for Budget Activitie	es 1.2.3. and 6										

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	ge 1)										February 20	04	
APPROPRIATION/BUDGET ACTIV	ΊΤΥ		PROGRAM E	LEMENT			PROJECT NU	JMBER AND I	NAME				
RDT&E, N / BA-7			0303140N Info		ms Security Pr		9430 SECUR						
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05		L	
	Method & Type	Activity & Location		PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	а туре	Location		0031	0031	Date	COSt	Date	Cost	Date	Complete	0.000	
Ancillary Hardware Development												0.000	
Aircraft Integration												0.000	
Ship Integration												0.000	
Ship Suitability												0.000	
Systems Engineering	CPFF	PSI, Inc.		0.000	0.000		1.680	01/04				1.680	
Training Development		, , ,										0.000	
Licenses												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal Product Development				0.000	0.000)	1.680)	0.000)	0.000	1.680	
Development Support												0.000	
Software Development												0.000	
Integrated Logistics Support												0.000	
Configuration Management												0.000	
Technical Data												0.000	
Studies & Analyses												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal Support				0.000	0.000		0.000)	0.000	D	0.000	0.000	
Remarks:													
				D_1 QUOE	DDING LIST	Itom No	101						

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)									February 200)4	
APPROPRIATION/BUDGET ACTIV	ITY	PROGRAM				PROJECT NU		NAME		-		
RDT&E, N / BA-7			nformation Syste	ms Security Pro		9430 SECURE		•				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SSC Charleston, SC	0.000			0.000	12/03		24.0	Complete	0.000	
Developmental Test & Evaluation	WX	SSC San Diego, CA	0.000			0.000	12/03				0.000	
Live Fire Test & Evaluation						11111	12,00				0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000)	0.000	0.000	
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	CPFF	BAH, Inc.				0.100	01/04				0.100	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.100		0.000)	0.000	0.100	
Remarks:												
Total Cost			0.000	0.000		1.780		0.000)	0.000	1.780	
Remarks:												

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Project Justification						DATE:	
						Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY							
RDT&E,N / BA-7	0305149N/COBRA	JUDY		4021/Rapid Techr	nology Transition		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	50.510	68.583	80.694	124.804	137.155	122.581	80.721
RDT&E Articles Qty	0	0	0	0	0	0	0

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. (U) Mission Description

Cobra Judy Replacement is a program that has been transferred from the Air Force to the Navy, per an Office of the Secretary of Defense (OSD) Milestone A Acquisition Decision Memorandum dated 6 August 20002. Current FY04 funding represents approximately half of the total budget.

Cobra Judy funds will replace the current U.S. Naval Ship (USNS) Observation Island which has become unsustainable and due to leave service no later that 2012. This program will fund the development of a single ship-based radar suite for world wide technical data collection against ballistic missiles in flight. Prior funding provided instrumentation of quality radar data and imaging, detailing threat assessment of ballistic missile development, testing and range augmentation and monitored or verified specific aspects of United States treaties with other countries. To avoid vulnerabilities in our national security it is imperative we replace the current capability of Cobra Judy in a timely manner to prevent any potential gap in coverage. Prior studies have indicated that a ship-based radar replacement is the most timely and cost effective solution.

The Cobra Judy Replacement program has successfully reached Milestone B/C since the last submission, resulting in an approved Acquisition Strategy. The current CAIG estimate is consistent with the approved Acquisition Strategy. The PB 05 submission reflects the current CAIG estimates.

R-1 SHOPPING LIST - Item No.

193

CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	0305149N/COBRA JUDY	4021/Rapid Technology Transition

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	33.125	61.189	71.145
RDT&E Articles Quantity	0	0	0

DESIGN AND RISK REDUCTION

Planned:

- Complete critical designs for prime mission (X-band and S-band) radars

Accomplishements:

- Completed Milestone B/C
- Awarded key contract for X and S-band radars

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	1.297	2.590
RDT&E Articles Quantity	0	0	0

SHIPBUILDING / CONVERSION

Planned:

- Complete ship selection studies
- Contract for ship and integration
- Initiate ship construction

R-1 SHOPPING LIST - Item No. 193

UNCLASSIFIED

Exhibit R-2, RDTEN Project Justification (Exhibit R-2, page 2 of 9)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /	0305149N/COBRA JUDY	4021/Rapid Technology Transition

B. Accomplishments/Planned Program (Cont.)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	9.950	3.658	4.175
RDT&E Articles Quantity	0	0	0

SYSTEM ENGINEERING

Planned:

- Requirements development and analysis
- Development of specifications
- Complete designs for non-prime mission equipment (C4I, data handling, classified mission equipment)

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	7.435	2.439	2.784
RDT&E Articles Quantity	0	0	0

PROGRAM MANAGEMENT SUPPORT

Planned:

- Program planning, assessment of technical alternatives, risk identification and mitigation.
- Cost and schedule development and execution

Accomplishments:

- Completed milestone documentation in preparation for Milestones B/C
- Completed Milestones B/C

Total Cost:	50,510	68,583	80,694

CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification				DATE:	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME	IDDO IECT NILIMBED A	February 2004	
		AND NAME			
RDT&E,N / BA-7	0305149N/COBRA JUDY		4021/Rapid Technolog	gy Transition	
C. (U) PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	51.061	69.369			
President's Budget: (PB 05 Controls)	50.510	68.583			
Total Adjustments	-0.551	-0.786			
Summary of Adjustments					
FFRDC Reduction	0.000	-0.589	0.000		
Economic Assumtions	-0.551	-0.197			
Subtotal	-0.551	-0.786	-0.306		
Schedule:					
Not Applicable.					
Technical:					
Not Applicable.					

CLASSIFICATION:

									DATE:	Februa	ary 2004
PROPRIATION/BUDGE	T ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NU	JMBER AND N	AME		
T&E,N /	BA-7		0305149N/CC	BRA JUDY			4021/Rapid T	echnology Tra	ansition		
D. OTHER PROGR	AM FUNDING SUMMAR	RY:								То	Total
Line Item No. & N	lame	<u>FY 2002</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete Continuing	Cost Continuing
P.E. 0303901N										Continuing	Continuing
Details and funding p	rofile for this Program Elem	nent is classified.									
E ACQUIEITION ST	DATECY.										
E. ACQUISITION ST			5 W C 14	" D ((5)MD)					/	
(U) The acquis	sition strategy calls for lev										
(U) The acquis designs from a		and purchasing and i	ntegrating the	mission equipr	nent aboard an	appropriate i	merchant-class				
(U) The acquis designs from a	sition strategy calls for lev similar operational unit, a	and purchasing and i	ntegrating the	mission equipr	nent aboard an	appropriate i	merchant-class				
(U) The acquis designs from a	sition strategy calls for lev similar operational unit, a	and purchasing and i	ntegrating the	mission equipr	nent aboard an	appropriate i	merchant-class				
(U) The acquis designs from a	sition strategy calls for lev similar operational unit, a	and purchasing and i	ntegrating the	mission equipr	nent aboard an	appropriate i	merchant-class				
(U) The acquis designs from a	sition strategy calls for lev similar operational unit, a	and purchasing and i	ntegrating the	mission equipr	nent aboard an	appropriate i	merchant-class				
(U) The acquis designs from a	sition strategy calls for lev similar operational unit, a	and purchasing and i	ntegrating the	mission equipr	nent aboard an	appropriate i	merchant-class				
(U) The acquis designs from a	sition strategy calls for lev similar operational unit, a nd commercial standards	and purchasing and i	ntegrating the	mission equipr	nent aboard an	appropriate i	merchant-class				
(U) The acquis designs from a technologies ar	sition strategy calls for lev similar operational unit, a nd commercial standards	and purchasing and i s to lower schedule ris	ntegrating the	mission equipr	nent aboard an	appropriate i	merchant-class				
(U) The acquis designs from a technologies ar	sition strategy calls for leving similar operational unit, and commercial standards	and purchasing and i s to lower schedule ris	ntegrating the	mission equipr	nent aboard an	appropriate i	merchant-class				

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pa	ige 1)	IDDOOD AL	4 EL EN4ENT NIANA	E AND NUMBER		DDO IFOT NI	IMPED AND	NAME		February 20	04	
APPROPRIATION/BUDGET ACTI RDT&E, N / BA - 7	VIIY					PROJECT NUMBER AND NAME 4021/Rapid Technology Transition						
Cost Categories	Contract	Performing	Total	1	FY 03	4021/Rapid 1	FY 04		FY 05			1
Cost Categories	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Dev / Sys Eng												
Prototype Development	CPAF	Raytheon	0.000	26.430	12/04	61.189	TBD	71.145	TBD	Continuing	Continuing	TBD
		PMS 325/CSC	0.000	6.695	03/03	1.297	TBD	2.590	TBD	Continuing	Continuing	TBD
Award Fee												
System Engineering	WX/RX/MIPR	Various	0.000	0.994	03/03	3.658	TBD	4.175	TBD	Continuing	Continuing	TBD
	WX	NSWC DD	0.000	3.165	03/03							
	WX	NSWC CSS	0.000	2.085	03/03							
	WX	NSWC PHD	0.000	0.435	03/03							
	CPFF	JHU/APL	0.000	1.035	03/03							
	wx	NRL	0.000	0.375	03/03							
	wx	SEG	0.000									
	GSA	Various	0.000		03/03							
	C NF	GTRI	0.000									
			3,333	01100								
Subtotal Product Development			0.000	43.075		66.144	ļ	77.910		Continuing	Continuing	TBD
Remarks:							•					
Test and Evaluation												
rest and Evaluation												
Test and Evaluation												
Test and Evaluation												
												1
				1								1
						+						
Cultural TRE.			0.000	0.000		0.000		0.000		Continuin	Continuin	TDD
Subtotal T&E:			0.000	0.000		0.000	1	0.000		Continuing	Continuing	TBD
Remarks:												
Total Cost			0.000	43.075		66.144		77.910		Continuing	Continuing	TBD
				DINO LIOT		100					·	

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	ne 2)							DATE:		February 200	04	
APPROPRIATION/BUDGET ACTIV	ITY	PRO	GRAM ELEMENT NAM	IE AND NUMBE	R	PROJECT NU	JMBER AND	NAME				
RDT&E, N / BA-7			49N/COBRA JUDY			4021/Rapid T						
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
3	Method	Activity &	PY s	FY 03	Award		Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.00	0.000		0.000		0.000)	0.000	0.000	Cont.
Contractor Engineering	GSA	Various	0.00	0.885	03/03	2.439	TBD	2.784	TBD	Continuing	Continuing	TBD
	GSA	Computer Science C	orp 0.000	2.725	03/03	0.000						
	GSA	Systems Planning &	Analy 0.000	1.900	03/03							
Government Engineering												
Program Management	GSA	BAE Systems	0.00	1.490	03/03							
	WX/CPFF	Various	0.00	0.385	03/03							
Travel			0.00	0.050	03/03							
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			0.00	7.435		2.439		2.784	ı	0.000	12.658	Cont.
Remarks:												
Total Cost			0.00	50.510		68.583		80.694	ı	Cont.	. Cont.	. Cont.
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Prof	ile																								DATE	:		Fahr	ruary	2004		
APPROPRIATION/BUDGET ACT	IVITY								PROG	RAM	ELEME	NT N	IUMBE	R ANI	D NAM	F					PRO.I	FCT N	IUMBE	R ANI	D NAM	IF.		rebi	ruary	2004		
RDT&E,N /	BA-7								03051							_							Techno									
Fiscal Year		200)2			20	003			20	04			20	005			20	06			20		0,		20	08			200	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ACQUISITION MILESTONES & DECISION REVIEWS		MS	A \triangle			N	MS B/C				IPR	\triangle																				
PHASE I - MISSION EQUIPMENT Contract Award, Technical							RFP		Contract Award	t	s	DR		SYS	TEM D	EVELO	DPMEN	NT & C	OEMON	NSTRA	TION									ИЕ ivery/		IOC 2011)
Reviews, & Delivery - ME Suite X-Band PAR													∖ PDF	R		\CD	R					ΧP	AR Dev Comp		-4						_	
S-Band PAR														OR		Δ	CDR								S		Develo omplet	ppment e				
Radar Integration																															Z	
PHASE II - SHIP Construction OR Conversion														RI	FP			ntract ward/	\ <u></u>	С	esign		•/	—		Consti	ruction ersion				<u> </u>	<u></u>
TEST & EVALUATION																					\triangle			Rada	ar DT&	E						
Developmental Test & Evaluation																									_			Mission	Equip	ment	DT&E	
Operational Test & Evaluation																																

^{*} Not required for Budget Activities 1, 2, 3, and 6

		LEGEND		
CDR	Critical Design Review		OPEVAL	Operational Evaluation
DT&E	Developmental Test and Evaluation		OTRR	OperationI Test Readiness Review
ICD	Interface Control Document		PAR	Phased Array Radar
IOC	Initial Operational Capability		PDR	Preliminary Design Review
IPR	Interim Progress Review		PDTT	Post Delivery Test & Trials
IOC	Initial Operational Capability		RFP	Request for Proposal
IOT&E	Initial Operational Test & Evaluation		SDR	System Design Review
MS	Milestone		TECHEVAL	Technical Evaluation

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						F	Eebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU			
RDT&E,N / BA-7	0305149N/CO	BRA JUDY			4021/Rapid To	echnology Tra	insition	
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
ACQUISITION MILESTONES & DECISION REVIEWS								
Milestone A (MS A)	3Q							
Milestones B/C (MS B/C)		4Q						
Interim Progress Review (IPR)			4Q					
System Development & Demonstration	3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
MISSION EQUIPMENT					1			
Request for Proposal (RFP)		4Q						
Contract Award(s)			1Q					
System Design Review (SDR)			3Q					
Delivery								3Q
X-Band Radar								
Contract Award			1Q					
Preliminary Design Review (PDR)				1Q				
Critical Design Review (CDR)				4Q				
Delivery							1Q	
S-Band Radar					+			
Contract Award			1Q					
Preliminary Design Review (PDR)				1Q				
Critical Design Review (CDR)				4Q				
Delivery							4Q	
Radar Integration								
Delivery							1Q, 4Q	3Q
SHIP								
Request for Proposal (RFP)				3Q				
Contract Award					3Q			
Ship Design					3Q-4Q	1Q-3Q		
Ship Contruction or Conversion						3Q		
Delivery								3Q
TEST AND EVALUATION								
Radar Developmental Test & Evaluation (DT&E)						1Q-4Q	1Q-4Q	
Mission Equipment Developmental Test & Evaluation (DT&E)							1Q-4Q	1Q-4Q

R-1 SHOPPING LIST - Item No.

193

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE:		
·									February 2004	
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NO	MENCLATURE		-	
RESEARCH DEVELOPMENT TEST & EVALUA	ATION, NAVY	7	BA-7			PE 0305160N	Defense Mete	orological Sate	ellite Program (Space)	
	Prior									Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Total PE Cost	170.268	21.833	7.878	4.215	5.198	5.827	22.810	23.199	CONTINUING	Continuing
1452 Geosat Follow-on	95.732	1.729	0.812	0.898	0.926	1.120	1.143	1.166	CONTINUING	Continuing
0524 Navy METOC Support (Space)	74.536	17.253	4.099	3.317	4.272	4.707	21.667	22.033	CONTINUING	Continuing
9282 Radiation Hardened Vector Processor	0.000	2.851	2.967	0.000	0.000	0.000	0.000	0.000		5.818
										0.000
										0.000
										0.000
Quantity of RDT&E Articles										0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program element supports the naval services' unique requirements in meteorological and oceanographic (METOC) space-based remote sensors. These interests include commitments to satellite, sensor, and operational demonstration/development activities as well as transition to fleet applications associated with five satellite programs: 1) The converged National Polar-orbiting Operational Environmental Satellite System (NPOESS), 2) the joint Defense Meteorological Satellite Program (DMSP), 3) the Coriolis satellite funded by Navy, the NPOESS Integrated Program Office (IPO) and the DoD Space Test Program (STP) which includes the Navy WindSat and Air Force SMEI instruments, 4) the Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) funded entirely by Navy and 5) the Indian Ocean METOC Imager (IOMI) project. GEOSAT provided ocean topography information from 1985-1990. In 1991, the Navy began the development of a follow-on capability to continue providing this required ocean topography information via the GFO satellite, launched on 10 February 1998. GFO altimeter data are used to observe significant wave height, ocean thermal and acoustic structure. The Navy METOC Support (Space) project provides for Navy participation in Navy/Air Force cooperative efforts leading to DMSP sensor development, specifically participation in the calibration and validation of instruments and delivery of satellite products to the Fleet. The passive microwave instruments carried on DMSP and future NPOESS satellites provide global oceanic and atmospheric data of direct operational relevance, including sea surface wind, sea ice, and precipitation. WindSat, an initiative begun in 1997, is a partnered program that meets multiple Naval remote sensing requirements and provides a significant risk reduction for the NPOESS satellites' Conical Microwave Imaging Sensor (CMIS) instrument. The spacecraft and sensor development in support of IOMI-GIFTS project was terminated. Congressional Adds for a Radiation Hardened Vector Processor system to adv

(U) JUSTIFICATION FOR BUDGET ACTIVITY: BA-7: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	ary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUME	BER AND NAM	IE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	PE 305160N D	efense Meteor	ological Satellit	e Program (Sp	ace)	0524 Navy ME	TOC Support	(Space)			
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program
Project Cost	74.536	17.253	4.099	3.317	4.272	4.707	21.667	22.033		Continuing	Continuing
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Navy Meteorological and Oceanographic (METOC) Support (Space) project provides for the naval services' unique sensor development efforts (WindSat and Advanced Altimeters) and Navy participation in Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave/Imager (SSM/I) and Special Sensor Microwave Imager/Sounder (SSM/IS) calibration efforts in support of the Fleet operational requirements. WindSat, an initiative begun in 1997, is a partnered program that meets multiple Naval remote sensing requirements and provides a significant risk reduction for the NPOESS satellites' Conical Microwave Imaging Sensor (CMIS) instrument. The passive microwave instruments carried on DMSP and future NPOESS satellites provide global oceanic and atmospheric data of direct operational relevance wind, sea ice, and precipitation. The Navy METOC Support (Space) project ensures the naval services' operational requirements are satisfied primarily through demonstration of technologies for inclusion on operational constellations such as DMSP, the National Polar-orbiting Operational Environmental Satellite System (NPOESS) and the National Oceanic and Atmospheric Administration's (NOAA) Geostationary Operational Environmental Satellites (GOES). These efforts fulfill naval service unique requirements that are not funded within the DMSP, NPOESS or GOES programs, and are in accordance with current inter-agency agreements. The project also provides for participation in efforts leading to operational improvements of satellite derived products and naval service participation as a voting member of the DMSP Configuration Control Board (CCB) and as a technical advisor to the NPOESS Joint Agency Requirements Group (JARG). Future funding plans respond to emerging Chief of Naval Operations requirements for Navy and Marine Corps METOC data.

CLASSIFICATION:

				DATE:	
				Febr	uary 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AND	NAME	
DT&E, N / BA-7	PE 305160N Defense Meteo	rological Satellite Program	0524 Navy METOC Suppo	ort (Space)	
) B. Accomplishments/Planned Program					
WINDSAT	FY 03	FY 04	FY 05		7
Accomplishments/Effort/Subtotal Cost	14.243	3.055	2.589		1
RDT&E Articles Quantity		1			
and data validation. FY05 Plans: Continue to support WindSat on-orbit generated for Fleet use.	payload to provide Fleet ocean v	wind speed and direction da	ata. Perform sensor calibrat	ion and data validation of envi	ronmental algorithms
Indian Ocean METOC Imager	FY 03	FY 04	FY 05		7
Indian Ocean METOC Imager Accomplishments/Effort/Subtotal Cost	FY 03 2.260	FY 04 0.000	FY 05 0.000		
	2.260	0.000	0.000		

FY03: Continued to monitor SSM/I performance and continued validation support effort associated with the DMSP SSM/IS and WindSat sensor. Conducted field experiments with APMIR to use for calibration/validation of DMSP SSM/I, SSM/IS sensors, and the WindSat sensor.

FY04 - FY05: Continue to monitor SSM/I performance and continue validation support effort associated with the DMSP SSM/IS and WindSat sensor. Conduct field experiments with APMIR to use for calibration/validation of DMSP SSM/I, SSM/IS sensors, and the WindSat sensor.

CLASSIFICATION:

ROGRAM ELEMENT NUM 305160N Defense Metec	IDED AND NAME		DATE: February 2004
	IBER AND NAME	PROJECT NUMBER AND N	
COOTOON BOIONOO MOLOC			
	rological Calonito i rogiam (OZTINATY METOG Cappoin	. (Орасо)
FY 03	FY 04	FY 05	
0.000	0.085	0.086	
development and trade s	studies.		
FY 03	FY 04	FY 05	
0.000	0.000	0.000	
FY 03	FY 04	FY 05	
	0.000	0.000	
0.000	0.000		
	0.000		
	0.000 velopment and trade studing development and trade selections FY 03 0.000	0.000 0.085 velopment and trade studies. development and trade studies. FY 03 FY 04 0.000 0.000	0.000 0.085 0.086 velopment and trade studies. development and trade studies. FY 03 FY 04 FY 05 0.000 0.000 0.000

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
						February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NU	IMBER AND NAME	P	ROJECT NUMBER	AND NAME	
RDT&E, N / BA-7	PE 305160N Defense Met	eorological Satellite Pr	ogram (Spac05	524 Navy METOC	Support (Space)	
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:		FY 2003	FY 2004	FY 2005		
FY 04 President's Budget FY 05 President's Budget		17.540 17.253	4.145 4.099	3.571 3.317		
Total Adjustments		(0.287)	(0.046)	(0.254)		
Summary of Adjustments						
N61 HQ Support				(0.236)		
FY03_SBIR_5-May-03 FY 2003		(0.107)		,		
NWCF Rates - NRL Rates				(0.004)		
Section 8094: Management Improve			(0.011)			
Sec. 8126: Efficiencies/Revised Eco	on. Assumptions		(0.035)			
FY 2003 Update		(0.180)				
WCF - R&D - NRL - PBD 430				(0.010)		
PBD 426 Rates - NRL				0.008		
PBD-604 Inflation				(0.009)		
PBD604 non purchase inflation				(0.002)		
P07 Technical Adjustments				(0.001)		
Subtotal		(0.287)	(0.046)	(0.254)		
(U) Schedule:						
Not Applicable						
(U) Technical:						
Not Applicable						
	D 4 C	HOPPING LIST - It	om No. 104			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME	
RDT&E, N / BA-3,4,7	PE 305160N Defense Meteorological Satellite Program (S	0524 Navy METOC Support	(Space)	

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name

Not Applicable

(U) E. ACQUISITION STRATEGY: *

Naval service unique space based METOC requirements are not fully funded through Joint or converged national program plans. Particular sensors or data sources with unique naval service mission needs are targeted to accelerate acquisition or ensure threshold accomplishment. WindSat provides risk reduction data and developmental technology that the NPOESS IPO will use in the development of the Conical Microwave Imager Sounder (CMIS). CMIS will collect global microwave radiometry and sounding data to produce microwave imagery and other meteorological and oceanographic data. CMIS can be viewed as the follow-on instrument to the Special Sensor Microwave (SSM) instruments Navy developed for the Defense Meteorological Satellite Program (DSMP). It will be the primary instrument for satisfying 20 NPOESS Integrated Operational Requirements Document (IORD) Environmental Data Records (EDRs). These CMIS sensors will be acquired as part of the NPOESS architecture which supports these Navy requirements in the future. Maintenance of rigorous sensor calibration and data validation for operational SSM instruments continues along with algorithm development in support of fleet applications. The Advanced Altimeter technologies will improve radar altimeter resolution and areal coverage to support Navy requirements for sea surface topography measurment in the littorals.

(U) F. MAJOR PERFORMERS: **

FY-03 - FY05 - Naval Research Laboratory, Washington D.C. 49% Satellite Mission and Technical Support, Sensor Calibration and Data Validation

- * Not required for Budget Activities 1,2,3, and 6
- ** Required for DON and OSD submit only.

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pa	age 1)									Februa	ry 2004	
APPROPRIATION/BUDGET ACTI	VITY	PROGRAM E	LEMENT			PROJECT NU	JMBER AND N	AME				
RDT&E, N / BA-7		PE 305160N [Defense Meteoi	ological Satelli	te Program (Space	0524 Navy ME	ETOC Support	(Space)				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
		Activity &	-		Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Spacecraft Development	FF	Spectrum Astro, AZ	0.000	2.500	Continuous	0.000		0.000		0.000	2.500	
Spacecraft Development	CP	TRW, Redondo Beach, CA	3.185	1.700	10/02	0.000		0.000		0.000	4.885	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			3.185	4.200		0.000		0.000		0.000	7.385	

Remarks: Spacecraft Development includes both the Coriolis (Spectrum Astro) and IOMI (TRW) Projects. The contract for the Coriolis spacecraft is held by the DoD Space Test Program with Spectrum Astro; through FY03 Navy provided ~\$14M for the spacecraft development.

- A. The FY03 increment completes the Navy obligation per the interagency MOA of the Space Test Program (STP) Spectrum Astro development.
- B. The IOMI (TRW) spacecraft development was terminated by PBD #751.

Windsat Cal Val & Operational									
Data /Coriolis Command & Control	CP	Various	62.471	11.113	2.079	1.432	Continuing	Continuing	
*IOMI PM and System Engineering	CP	Various	3.754	0.000	0.000	0.000	0.000	3.754	
*SSMIS Cal/Val	CP	Various	5.126	0.620	1.750	1.135	Continuing	Continuing	
Future Mission Studies	CP	TBD				0.500	Continuing	Continuing	
*APMIR	CP	Various		1.320	0.270	0.250	Continuing	Continuing	
								0.000	
								0.000	
Subtotal Support			71.351	13.053	4.099	3.317	0.000	91.820	

Remarks

Remarks: Future Mission Studies adress Navy unique METOC requirements.

^{*}Indian Ocean METOC Imager (IOMI)

^{*}Special Sensor Microwave Imager Sounder (SSMIS)

^{*}Airborne Polarimetric Microwave Imaging Radiometer (APMIR)

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analys	sis (page 2)										Februa	ry 2004	
APPROPRIATION/BUDGE	F ACTIVITY		PROGRAM ELE	EMENT			PROJECT NU	IMBER AND I	NAME			.,	
RDT&E, N / B	A-7		PE 305160N De	efense Meteo	rological Satell	lite Program (Space	0524 Navy ME	TOC Suppor	t (Space)				
Cost Categories	Contract Method & Type	Performing Activity & Location	T F	Total PY s Cost	FY 03 Cost	FY 03 Award Date		FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evalu												0.000	
Operational Test & Evaluation	on											0.000)
Live Fire Test & Evaluation												0.000)
Test Assets												0.000)
Tooling												0.000)
GFE												0.000)
Award Fees												0.000)
Subtotal T&E				0.000	0.000		0.000		0.000		0.000	0.000)
Contractor Engineering Suppo	t										Continuing	Continuing	J
Government Engineering Supp	ort											0.000)
Program Management Suppor	t											0.000)
Travel												0.000)
Transportation												0.000)
SBIR Assessment												0.000)
Subtotal Management				0.000	0.000)	0.000		0.000		0.000	0.000)
Remarks:													
Total Cost				74.536	17.253	3	4.099		3.317		0.000	99.205	;
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																									DATE	:	Fe	ebruary 200
APPROPRIATION/BUDGET ACTIVITY									PROC	SRAM	ELEM	ENT N	UMBE	R AND	NAME						PROJI	CT N	UMBE	R ANI	NAM C	E		
RDT&E, N /	BA-7	,							PE 30	5160N	l Defer	nse Me	teorolo	gical S	Satellite	Progra	am (Sp	pace)			0524 N	lavy M	IETOC	Supp	ort (Sp	ace)		
Fiscal Year		20	03			200	04			20	05			20	06			200	07			200	8			20	009	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
X0524	LAU	INCH		0.41																								
WindSat / Coriolis				CAL/	VAL P	HASE		\vdash	Ş	SUPPC	RT TO	FLEE	Ī															
Special Sensor Microwave	SSMI	CAL/V	AL PH	ASE /		LAUN				,	F-1	7 LAUI		'		Å	F-18	8 LAUN	NCH '			٨	F-19	9 LAU				
lmage Sounder (SSMIS)					• 1	AL/VAI				=	\sim	CA	L/VAL	PHAS	Ε ,	二,	$\overline{\overline{}}$	C	AL/VAL	_PHA	SE	二,	7—	CA	L/VAL	PHAS	E	
Airborne Polarimetric Microwave Imaging Radiometer	DEVE	LOPM	ENT	NDSA	T & SS	MISU	NDER	FLIGH	TS		, ;	SMIS	UNDE	RFLIG	HTS		3	SMIS	UNDE	RFLIG	HTS	ν	S	SMIS (UNDER	FLIGI	HTS	
(APMIR)							Ī																					
Future Missions								[Sī	TUDY	PHAS	E								=		DEVE	ELOPN	MENT	PHAS	E E		

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	JMBER AND N	AME
RDT&BA-7	PE 305160N I	Defense Meteoi	ological Satelli	te Program (Sp	ace)	0524 Navy ME	TOC Support (Space)
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
WindSat /Coriolis							
Testing Complete							
Launch	2Q						
Calibration /Validation Complete		3Q					
Special Sensor Microwave Image Sounder (SSMIS)							
DMSP Launches	4Q		2Q	4Q		2Q	
Airborne Polarimetric Microwave Imaging Radiometer (APMIR)							
WindSat Underflights	3Q	1Q					
SSMIS Underflights		2Q, 4Q	4Q	2Q	2Q, 4Q	4Q	2Q
Future Missions							
Study Phase Complete					4Q		
Start of Development Phase					40	1Q	
Start of Development Phase						IQ	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2004	
APPROPRIATION/BUDGET ACTIVITY											
RDT&E, N / BA-7	0305160N Na	vy Meteorologi	cal and Oceano	ographic Senso	ors - Space	1452 GEOSAT					
	Prior										Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program
Project Cost	95.732	1.729	0.812	0.898	0.926	1.120	1.143	1.166		Continuing	Continuing
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project provides a satellite-borne radar altimeter sensor to obtain ocean topography measurements from which tactically significant features such as ocean fronts and eddies, wave heights, internal acoustic structure, and sea-ice edges are derived. Topography provides a unique and important data source in support of a number of naval service unique warfare areas such as anti-submarine and undersea warfare. GFO data are made freely available to other agencies such as the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA) who value its input to studies involving global warming and climate change including El Nino Southern Oscillation (ENSO) effects. Ocean topography data was previously provided by GEOSAT from 1985 until the satellite failed in January 1990. The GEOSAT Follow-On (GFO) satellite provides altimetry data until an Advanced Altimeter or a National Polar-orbiting Operational Environmental Satellite System (NPOESS) altimeter is available.

CLASSIFICATION:

					ebruary 2004			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMB	ER AND NAME		PROJECT NUMBER AN	ID NAME			
RDT&E, N /BA-7	0305160N Navy Meteorologic	0305160N Navy Meteorological and Oceanographic Sensors - Space 1452 GEO						
U) B. Accomplishments/Planned Program								
U) B. Accomplishments/Planned Program On-Orbit Performance Incentive Fee	FY 03	FY 04	FY 05					
	FY 03 0.750	FY 04 0.791	FY 05 0.000					

FY03: Continued to fund on-orbit performance incentive.

FY04: Continue to fund on-orbit performance incentive.

Algorithm Development	FY-03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.350	0.000	0.000	
RDT&E Articles Quantity				

FY03 - Continued to develop improved ground station satellite data processing techniques.

Sensor Calibration and data validation	FY-03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.629	0.021	0.898	
RDT&E Articles Quantity				

- FY03 Continued to assess on-orbit system performance, conducted payload calibration and data validation, refined orbits and resolved performance anomalies.
- FY04 Continue limited assessment on-orbit system performance, conduct payload calibration and data validation, refine orbits and resolve performance anomalies.
- FY05 Continue to assess on-orbit system performance, conduct payload calibration and data validation, refine orbits and resolve performance anomalies.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
						February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT N	IUMBER AND NAME			PROJECT NUMBER AND NAME	
RDT&E, N / BA-7	0305160N Navy Meteor	ological and Oceanograp	hic Sensors -	Space	1452 GEOSAT	
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding: FY 04 President's Budget FY 05 President's Budget		FY 2003 1.784 1.729	FY 2004 0.821 0.812	FY 2005 0.900 0.898		
Total Adjustments		(0.055)	(0.009)	(0.002)		
Summary of Adjustments FY03_SBIR_5-May-03 Section 8094: Management Imp Sec. 8126: Efficiencies/Revised	provements	(0.036)	(0.002) (0.007)			
FY 2003 Update Inflation	Econ. Assumptions	(0.019)		(0.002)		
(U) Schedule:		(0.055)	(0.009)	(0.002)		
Not Applicable						
(U) Technical: Not Applicable						
<u> </u>	D 4 (SHOPPING LIST - It	om No. 101			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NU	MBER AND NAME
RDT&E, N / BA-7	0305160N Navy Meteorological and Oceanographic Sensors - Space	1452 GEOSA	Т

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name

Not Applicable

(U) E. ACQUISITION STRATEGY:

The naval services require a satellite-borne radar altimeter sensor on orbit to obtain ocean topography measurements from which tactically significant features such as ocean fronts and eddies, wave heights, internal acoustic structure, and sea-ice edges are derived. Rigorous payload calibration, data validation and precision orbit determination maintain accuracy and usefulness of data. Continued refinement of sensor performance works toward satisfying the Navy and Marine Corps' littoral data requirements. As the Geosat Follow-On satellite reaches its end of life, the program will transition to satisfy naval service unique altimetry requirements through a free-flying Advanced Altimeter or a National Polar-orbiting Operational Environmental Satellite System (NPOESS) altimeter.

(U) F. MAJOR PERFORMERS:

FY04 to FY05 - Ball Aerospace, Boulder, CO 50% Satellite Mission Support and on-orbit incentive fee; Computer Sciences Corporation (CSC), Monterey, CA 50% Sensor Calibration, Data Validation and Technical Support.

CLASSIFICATION:

											DATE:				
Exhibit R-3 Cost Analysis (p	page 1)												February 200	04	
APPROPRIATION/BUDGET AC	TIVITY		PROGRAM E	LEMENT				PROJECT N	UMB	BER AND N	NAME				
RDT&E, N / BA-7			0305160N Na		rologi	ical and Ocear		nsc1452 GEOS							
Cost Categories	Contract Method	Performing Activity &		Total PY s		FY 03	FY 03 Award	FY 04	Aw	′ 04 vard	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	Location		Cost		Cost	Date	Cost	Da		Cost	Date	Complete	Cost	of Contract
Software Development	СР	Ball Aerospac	ce		.965		1	0.000		N/A	0.000			85.965	
		Various		8	3.045	0.000	N/A	0.000	0	N/A	0.000	N/A		8.045	
														0.000	
														0.000	
														0.000	
														0.000	
														0.000	
														0.000	
														0.000	
														0.000	
														0.000	
Subtotal Product Development				94	4.010	0.000		0.000	0		0.000		0.000	94.010	
Systems Engineering	СР	Ball Aerospa	ce	1	1.082	1.071	N/A	0.554	4	N/A	0.662	N/A	CONTINUING	Continuing	
		Various		(0.640	0.658	N/A	0.258	8	N/A	0.236	N/A	CONTINUING	Continuing	
														0.000	
														0.000	
														0.000	
														0.000	
														0.000	
														0.000	
Subtotal Support				1	1.722	1.729		0.812	2		0.898	3	0.000	5.161	
Remarks:															

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost An APPROPRIATION/BUD	alysis (page 2)									February 200)4	
APPROPRIATION/BUD	GET ACTIVITY		PROGRAM ELEMENT				NUMBER ANI	O NAME				
RDT&E, N / Cost Categories	BA-7		0305160N Navy Meteorolo	gical and Ocea	nographic S	ensc1452 GEO	SAT					
Cost Categories	Contrac Method & Type	Activity &	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
	α τγρε	Location	COSI	Cost	Date	Cost	Date	Cost	Date	Complete	0.000	or Contract
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.00	0.00	0	0.0	000	0.	000	0.000	0.000	
										Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
0.1454511145555555			0.00	0 000		0.0	200	0	200	0.000	0.000	
Subtotal Management			0.00	0.00	0	0.0	000	0.	000	0.000	0.000	
Remarks:												
Total Cost			95.73	2 1.72	9	0.8	312	0.	398	0.000	99.171	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedul	e Profile	9																								DATI	E:			February	2004
APPROPRIATION/BUDGE	T ACTIV	'ITY								PROG	RAM	ELEM	ENT N	IUMBE	R ANI	D NAM	E					PROJ	JECT N	NUMBE	R AN	ID NAM	ИΕ			,	
RDT&E, N /	BA-																	ic Sens	sors - S	Space		1452									
Fiscal Year		2	2003				20	04			20	05			20	06			20	007			20	08			2	2009)		
	1	2	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	2	3	4	
Satellite Operations																												#	耳		
																												+			

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	
Exhibit IV-4a, Scheddie Detail							February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	EMENT			PROJECT NU	MDED AND N	ANE
							AIVIE
RDT&E, N / BA-7	0305160N Na						T T
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
0.4 1114 0.00 0.00							
Satellite Operations*							

R-1 SHOPPING LIST - Item No. 194

*NOTE: Operational Satellite - no major milestones.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUM	BER AND NAM	IE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0305160N Na	vy Meteorologi	cal and Ocean	ographic Senso	ors - Space	9282 Radiation	n Hardened Ve	ctor			
	Prior										Total
COST (\$ in Millions)	Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost	0.000		2.851	2.967	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Radiation Hardened Vector Processor (RHVP) project will enable signal processing to be performed onboard a satellite rather than on the ground, reducing the bandwidth requirements of the downlink and increasing the information content of data that can be provided by a satellite payload. Radiation hardening for on-orbit processing of imagery and sensor data is a critical technology needed by ongoing Navy and national satellite programs.

Congressional adds for a Radiation Hardened Vector Processor system to advance the science of spacecraft based data and imagery processing were provided in FY03 and FY04.

CLASSIFICATION:

	ation			DATE:	
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	ADED AND NAME		PROJECT NUMBER A	February 2004
DT&E, N /BA-7	0305160N Navy Meteorolog	gical and Oceanographic Sen	sors - Space	9282 Radiation Harder	ned Vector
B. Accomplishments/Planned Program					
	FY03	FY 04	FY 05		
Accomplishments/Effort/Subtotal Cost	2.851	2.967	0.000		
RDT&E Articles Quantity					
FY03 - Developed a test bed that was used t FY04 - Develop software and integrate it with					
	FY03	FY 04	EY 05		
Accomplishments/Effort/Subtotal Cost	FY03 0.000	FY 04 0.000	FY 05 0.000		
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY03 0.000				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						ATE:	Falamana 0004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME			PROJECT NUM	BER AND NAME	February 2004
RDT&E, N / BA-7			shia Canaasa (2222		Hardened Vector	
RDIGE, N / DA-1	0305160N Navy Meteorological a	and Oceanograp	onic Sensors - 3	space	9282 Radiation	Hardened vector	
(U) C. PROGRAM CHANGE SUMMARY:							
(U) Funding:		FY 2003	FY 2004	FY 2005	;		
FY 04 President's Budget		3.000	0.000	0.000			
FY 05 President's Budget		2.851	2.967	0.000			
Total Adjustments		(0.149)	2.967	0.000			
Summary of Adjustments							
FY03_SBIR_5-May-03 FY 2003		(0.076)					
Section 8094: Management Improvement	ents		(800.0)				
Miscellaneous Adjustment		(0.073)					
Sec. 8126: Efficiencies/Revised Econ.	Assumptions		(0.025)				
Radiation Hardened Vector Processing	_	(2.1.12)	3.000		_		
Subtotal		(0.149)	2.967	0.000			
(U) Schedule:							
Not Applicable							
(U) Technical:							
Not Applicable							

CLASSIFICATION:

EXHIBIT R-2a, RDT&E P	roject Justification			DATE:	
	•				February 2004
APPROPRIATION/BUDGET A	CTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT N	JMBER AND NAME	<u>-</u>
RDT&E, N /	BA-7	0305160N Navy Meteorological and Oceanographic Sensors - Space	9282 Radiatio	on Hardened Vector	
(U) D. OTHER PROGR	AM FUNDING SUMMARY:				
Line Item No. & Name	<u>2</u>				
Not Applicable					
(U) E. ACQUISITION S	TRATEGY:				
Not Applicable					
(U) F. MAJOR PERFO	RMERS:				
Not Applicable					

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pa	ige 1)									February 20	04	
APPROPRIATION/BUDGET ACTI	VITY	PROGRAM	ELEMENT			PROJECT N	UMBER AND	NAME				
RDT&E, N / BA-7		0305160N N	Navy Meteorol	ogical and Ocea	nographic Sens	s 9282 Radiatio	on Hardened	Vector				
Cost Categories	Contract Method	Performing Activity &	Total PY s	FY 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Software Development		Valley Technologies Inc.	0.0		1 05/03	2.967	7 N/A	0.000	N/A		5.818	
		Tamaqua, PA	0.0	00							0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.0	00 2.85	1	2.967	7	0.000)	0.000	5.818	8
Systems Engineering			0.0	00 0.00	0	0.000	0	0.000			CONT	-
											CONT	-
											0.000	
											0.000	
											0.000	
											0.000)
											0.000	
											0.000	
Subtotal Support			0.0	0.00	0	0.000	0	0.000)	0.000	0.000)
Remarks:												

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (page	e 2)										February 200	14	
APPROPRIATION/BUDGET ACTIVI	TY		PROGRAM EI				PROJECT NU						
RDT&E, N / BA-7			0305160N Na	avy Meteorologi	cal and Ocean	ographic Sens	9282 Radiatio	n Hardened V	ector				
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method	Activity &			FY 03	Award	FY 04	Award		Award		Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete		of Contract
												0.000	
												0.000	
												0.000	
												0.000	
												0.000 0.000	
												0.000	
Subtotal T&E				0.000	0.000		0.000		0.000		0.000	0.000	
Oublottal Tale	ļ			0.000	0.000	ļ	0.000	ļ	0.000	ļ	0.000	0.000	!
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
Subtotal Management				0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:													
Total Cost				0.000	2.851		2.967		0.000		0.000	5.818	
Remarks:													

CLASSIFICATION:

XHIBIT R4, Schedule	Profile																								DATE	:		February	/ 2004
PPROPRIATION/BUDGE	T ACTIV	ITY							PROG	RAM	ELEM	ENT N	UMBE	R AND	NAM	E					PROJ	ECT N	IUMBE	R AN	D NAM	1E			
RDT&E, N /	BA-7				1									l and C			ic Sens	sors - S	Space						d Vecto				1
Fiscal Year		20	003			20	04			20	05			20	06			200	07			20	80			20	009		
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
adiation Hardened Vector			_																										
adiation hardened vector																													

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Evhibit D. 4a. Cabadula Datail						I DATE	
Exhibit R-4a, Schedule Detail						DATE:	- 1 0004
	T				I	<u> </u>	February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI					IMBER AND N	
RDT&E, N / BA-7		vy Meteorologi					
Schedule Profile Radiation Hardened Vector	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Radiation Hardened Vector	3Q	3Q					
					-		

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:			
								Febru	ıary 2004	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NO	MENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY	/	BA-7			0305188N - Jo	oint C4ISR Batt	le Center (JBC	2)		
	Prior									Total
COST (\$ in Millions)	Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Total PE Cost	35.721	29.371	44.865	43.569	43.875	43.228	44.523	45.734	Continuing	Continuing
2456 - Joint Battle Center	35.721	8.117	8.521						0.000	52.359
3011 - Joint Battle Management Command & Control	0.000	0.000	26.097						0.000	26.097
3043 - Joint Interoperability and Integration	0.000	18.561	8.269	43.569	43.875	43.228	44.523	45.734	Continuing	Continuing
9283 - Strategic Interoperability Initiative	0.000	2.693							0.000	2.693
9431 - Joint Enroute Mission Planning and Rehearsal - Near Term	0.000	0.000	1.978						0.000	1.978
Quantity of RDT&E Articles										

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Continuation of The Unified Command Plan 2002 assigned Commander, USJFCOM with the mission as the Joint Force Integrator. Additionally, the Chairman Joint Chiefs of Staff (CJCS) designated Commander, USJFCOM as lead agent to transform the Armed Forces. In support of these two missions, USJFCOM Joint Interoperability and Integration (JI&I), located within Headquarters USJFCOM, is responsible for joint interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. USJFCOM JI&I works closely with Combatant Commanders/Services/Agencies (C/S/A) to ensure warfighting deficiencies are identified, develops synchronized Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) capability plans to ensure the warfighter has interoperable capabilities, and provides prioritized recommendations to the Joint Requirement Oversight Council (JROC) for endorsement/approval. A USJFCOM JI&I transition fund supports the DOTMLPF synchronization plan concept allowing for rapid insertion of capabilities into the field while serving as a bridge until the next Service or Agency POM cycle.

Management Initiative Decision (MID) 912 signed 7 January 2003 expanded the JI&I operational role through tactical level joint integration of the following capabilities: Common Operational and Tactical Pictures; Combat Identification; Situational Awareness; Adaptive Mission Planning and Rehearsal; Interoperability among Service/Agency intelligence systems; Interoperable joint fires, maneuver, and intelligence; and Integrated Joint Battle Management Command and Control.

MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it provides rapid assessment of required C4ISR interoperability, as well as rapid insertion of capabilities across the DOTMLPF spectrum that meet the joint warfighter's need.

Congressional Add Project 9431: JFCOM JI&I received \$2.0M in FY04 only for the Joint Enroute Mission Planning Rehearsal System - Near Term (JEMPRS NT).

R-1 SHOPPING LIST - Item No. 19

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 46)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febr	uary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	LEMENT NUM	BER AND NAM	IE	PROJECT NU	IMBER AND N	AME			
RDT&E, N / BA-7	0305188N - J	Joint C4ISR E	Battle Center (JBC)		2456 - Joint	(C4ISR) Battle	e Center			
		Prior									Total
COST (\$ in Millions)		Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost		35.721	8.117	8.521						0.000	52.359
RDT&E Articles Qty											C

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) Battle Center (JBC) is the U.S. Joint Forces Command (JFCOM) and Chairman, Joint Chiefs of Staff (CJCS) facility for warfighter exploration and assessment of C4ISR capabilities. The Center provides the combatant commands, at the Joint Task Force (JTF) level, with a nearterm joint assessment and experimental environment for the warfighter and technologist in support of Joint Vision 2020 (JV2020). It serves as the technical analysis and assessment agency for the Joint Requirement Operating Council (JROC) in determining C4ISR system "value-added" PRIOR to introduction to the Combatant Commanders and in advance of system fielding in operational environments. The intent is for the JBC to be a forcing function for joint synchronization and a means to foster rapid, near-term insertion of C4ISR technology. The mission of the JBC is to provide rapid assessment of required C4ISR interoperability and warfighter utility, join emerging C4ISR technology with new operational doctrine, and result in fielding C4ISR capabilities that meet the joint warfighter's needs.

Realigned to PE 0604787 project 3021 beginning in FY05.

R-1 SHOPPING LIST - Item No.

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, Page 2 of 46)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	2456 - Joint (C4ISR) Batt	le Center	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
CCs REQMTS ANALYSIS & CAPABILITY ASSESSMENTS	5.344	5.655		
RDT&E Articles Quantity				

FY03-04 CCs Requirements Analysis and Capability Assessments: Analyze near-term requirements from all Combatant Commanders, identify current mature technology available to address these requirements, perform comprehensive assessment for jointness, maturity, and warfighter utility. JBC projects are nominated to meet Combatant Commanders and Joint Force transformational requirements for the fiscal year. Those submitted to the Joint Staff for approval, and subsequently become the approved fiscal year program.

	FY 03	FY 04	FY 05	
DOTMLP-F JROC RECOMMENDATIONS	0.555	0.590		
RDT&E Articles Quantity				

FY03-04 DOTMLP-F JROC Recommendations: Provide Doctrine, Organizational, Training, Material, Leadership, Personnel, and Facilities (DOTMLP-F) recommendations on fielding strategies for Joint Requirement Oversight Council (JROC) endorsement. Recommendations are based on results from technology assessments, which identify relevant Service programs, doctrinal impacts, training implications, personnel requirements, etc.

	FY 03	FY 04	FY 05	
JOINT CONCEPT DEVELOPMENT & EQUIP SUP	1.730	1.772		
RDT&E Articles Quantity				

FY03-04 Joint Concept Development and Experimentation Support: Continue to support the Unified Vision series of experiments and preparation of Olympic Challenge and Pinnacle series of events. Provide support for Limited Objective Experiments and Multi-national experimentation efforts.

R-1 SHOPPING LIST - Item No. 195

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, Page 3 of 46)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			Febi	ruary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME	
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	2456 - Joint (C4ISR) Batt	le Center	
(II) B. A				

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
FEDERATED JOINT C2 LABORATORIES	0.488	0.504		
RDT&E Articles Quantity				

FY03-04 Federated Joint C2 Laboratories: The FJCL is a voluntary consortium of the JBC, the Service Battle Centers/Laboratories, Combatant Commanders, Agencies and other DoD organizations formed to promote near-term Joint C4ISR solutions to JTF operational needs/issues. The JBC, as chairman of the consortium, provides annual funding to support Service efforts through project experimentation/assessment. The CFBL is a consortium of nations and international organizations formed to evaluate combined C4ISR interoperability shortfalls, assess potential solutions through the utilization of agreed upon phased assessment procedures, report the results of those assessments, and make recommendations in order to foster improved combined CIS for the explicit purpose of promoting near-term concepts and acceptance of solutions.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
ADDRODDIATION/DUDOFT ACTIVITY	IDDOODAN SI SUSUE NII NII NOSSA AND MANS		DDO ISOTAII MADED ANI		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AN		
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)		2456 - Joint (C4ISR) B	attle Center	
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2003	FY 2004	FY 2005		
FY04 President's Budget	8.333	8.637	8.950		
FY05 President's Budget	8.117	8.521	0.000		
Total Adjustments	-0.216	-0.116	-8.950		
Summary of Adjustments					
FY03 SBIR Assessment	-0.216				
Sec. 8094: Management Improvements		-0.023			
Sec. 8029 , P.L. 107-248 FFRDC reduction	า	-0.020			
Efficiencies/Revised Econ Assumption		-0.073			
JFCOM PE Realignment			-8.950		
Subtotal	-0.216	-0.116	-8.950		
(U) Schedule:					
Not Applicable					
Not Applicable					
(U) Technical:					
` '					
Not Applicable					
	R-1 SHOPPING LIST - Iter	m No	195		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Pro	ject Justification							D	DATE:			
										Februa	ry 2004	
APPROPRIATION/BUDGET AC	TIVITY		PROGRAM E	LEMENT NUM	BER AND NAM	ΛE	PROJECT NU	IMBER AND NAM	ME			
RDT&E, N /	BA-7		0305188N - Joint C4ISR Battle Center (JBC) 2456 - Joint (C4ISR) Bat					(C4ISR) Battle	Center			
(U) D. OTHER PROGRA	M FUNDING SUMMARY:									То	Total	
Line Item No. & Name		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		mplete	Cost	
Not Applicable												
(U) E. ACQUISITION STRA	TEGY: *											
	JBC does not have a majo ices are provided by other								t from other servic	e contracts	and/or from the	
* Not required for Budge	et Activities 1,2,3, and 6											

CLASSIFICATION:

Exhibit R-3 Cost Analysis (pag	ge 1)									February 200)4		
APPROPRIATION/BUDGET ACTIV		PROGRAM E	LEMENT			PROJECT NUMBER AND NAME							
RDT&E, N / BA-7 0305188N - Joint C4ISR Battle Center (JBC)					JBC)	2456 - Joint ((C4ISR) Battl	le Center					
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05				
	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value	
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract	
Dev Support Equip Acquisition	MIPR	GSA Schedule	1.850	0.524	Various	0.530	Various			0.000	2.904		
Systems Engineering	C-CPFF	South Carolina Res	1.887	0.235	11/02					0.235	2.357	9.870	
Systems Engineering	C-CPFF	ODU	0.509	0.083	03/03	0.085	10/03			0.000	0.677	,	
Contractor Engineering Support	C-CPFF	GTRI	0.000	1.033	01/03	1.054	10/03			0.000	2.087	,	
Gov't Engineering Support	C-CPFF	General Dynamics	1.480	0.461	11/02	0.821	01/04			0.000	2.762		
Contractor Engineering Support	C-CPFF	SAIC	0.300								0.300		
Gov't Engineering Support	MIPR	Various DoD	3.247	0.506	Various	0.572	Various			0.000	4.325	5	
Travel		Various DoD	0.103	0.037	Various	0.039	Various			0.000	0.179		
											0.000		
											0.000		
											0.000		
Subtotal Product Development			9.376	2.879		3.101		0.000		0.235	15.591		

Remarks:

Systems Engineering Support	C-CPFF	ODU	0.482	0.066	03/03	0.067	10/03		0.000	0.615	
Contractor Engineering Support	C-CPFF	General Dynamics	1.611	0.358	11/02	1.401	01/04		0.000	3.370	
Gov't Engineering Support	MIPR	Various DoD	3.165	0.649	Various	0.557	Various		0.000	4.371	
Travel		Various DoD	0.054	0.028	Various	0.030	Various		0.000	0.112	
Technical Data										0.000	
Studies & Analyses										0.000	
GFE										0.000	
Award Fees										0.000	
Subtotal Support			5.312	1.101		2.055		0.000	0.000	8.468	

Remarks:

CLASSIFICATION:

								DATE					
Exhibit R-3 Cost Analysis (pag	o 2)							DATE:		February 200	M		
APPROPRIATION/BUDGET ACTIVI	€ <i>∠)</i> TV	PROGRAM EI	EMENT			PROJECT NU	IMRER AND N	IAME		rebluary 200	<u>/4</u>		
RDT&E, N / BA-7		0305188N - v		Battle Center	(JBC)	2456 - Joint							
Cost Categories	Contract	Performing	Total	I Contor	FY 03	2400 00111	FY 04		FY 05				
essi ediogenes	Method			FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value	
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete		of Contract	
Dev Support Equip Acquisition	MIPR	GSA Schedule	4.245	1.061	Various	0.824	Various			0.000	6.130		
Systems Engineering	C-CPFF	ODU	1.407	0.149	03/03	0.152	10/03			0.000	1.708		
Systems Engineering	C-CPFF	MITRE	0.410	0.277	11/02	0.283	11/03			0.000	0.970		
Contractor Engineering Support	C-CPFF	General Dynamics	4.000	0.889	11/02	1.026	01/04			0.000	5.915		
Gov't Engineering Support	MIPR	Various DoD	9.875	1.660	Various	0.991	Various			0.000	12.526		
Contractor Engineering Support	C-CPFF	Various	0.714							0.000	0.714		
Travel		Various DoD	0.382	0.101	Various	0.089	Various			0.000	0.572		
Subtotal T&E			21.033	4.137		3.365		0.000			28.535		
Contractor Engineering Support											0.000		
Government Engineering Support											0.000		
Program Management Support											0.000		
Travel											0.000		
Transportation											0.000		
SBIR Assessment											0.000		
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000		
Remarks:													
Total Cost			35.721	8.117		8.521		0.000		0.235	52.594		
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile	!																							DATE	:	F	ebrua	rv 20	04		
APPROPRIATION/BUDGET									PROC	SRAM	ELEMI	ENT N	UMBE	R AND	NAM (E					PROJ											
RDT&E, N /	BA-7	7							0305	188N	- Joint	C4IS	R Bat	ttle Ce	nter (JBC)					2456	- Join	t (C41	SR) B	attle (Center						
Fiscal Year		20	002			20	03			20	04		2005				2006				20	07		2008			2009					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
																																1
					ı	NO T	TITL	E 10) AC	QU	ISIT	ION	AU	THC	RIT	Υ /	FO	RM	NOT	ΑP	PLIC	CAB	LE									
Test & Evaluation Milestones																																
																																I
Production Milestones																																_
																																İ
Deliveries																																

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:				
,						F	ebruary 200)4		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA	AME			
RDT&BA-7	0305188N -	Joint C4ISR B	attle Center (JBC)	2456 - Joint	C4ISR) Battle Center				
Schedule Profile	FY 2002	FY 2003	FY 2004		FY 2006		FY 2008	FY 2009		
Not Applicable.										
				<u> </u>						
				<u> </u>						

R-1 SHOPPING LIST - Item No.

195

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUME	BER AND NAM	1E	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0305188N - Jo	oint C4ISR Batt	le Center (JBC))		3011 - Joint Ba	attle Managem	ent Command	and Control		
		Prior									Total
COST (\$ in Millions)		Years Cost	FY2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost		0.000	0.000	26.097	0.000	0.000	0.000	0.000	0.000	0.000	26.09
RDT&E Articles Qty											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Continuation of The Unified Command Plan 2002 assigned Commander, USJFCOM with the mission as the Joint Force Integrator. Additionally, the Chairman Joint Chiefs of Staff (CJCS) designated Commander, USJFCOM as lead agent to transform the Armed Forces. In support of these two missions, USJFCOM Joint Interoperability and Integration (JI&I), located within Headquarters USJFCOM, is responsible for joint interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. USJFCOM JI&I works closely with Combatant Commanders,/Services/Agencies (C/S/A) to ensure warfighting deficiencies are identified, develops synchronized Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) plans to ensure the warfighter has interoperable capabilities, and provides prioritized recommendations for Joint Requirement Oversight Council (JROC) endorsement. A USJFCOM JI&I transition fund supports the DOTMLPF synchronization plan concept allowing for rapid insertion of capabilities into the field while serving as a bridge until the next Service or Agency POM cycle. For future required capabilities critical to joint warfighting, USJFCOM JI&I is responsible to review and confirm all Department of Defense (DoD) Capability Development Documents (CPDs), Capstone Requirement Documents (CRDs), Capability Production Documents (CPDs), and C4I Support Plans (C4ISPs) for interoperability key performance parameters (IKPPs), information exchange requirements (IERs), and operational architecture views (OVs) in accordance with Department of Defense and Chairman Joint Chiefs of Staff directions and instructions.

In addition, Management Initiative Decision (MID) 912 signed 7 January 2003 expanded the JI&I operational role through tactical level joint integration of the following capabilities: Common Operational and Tactical Pictures; Combat Identification; Situational Awareness; Adaptive Mission Planning and Rehearsal; Interoperability among Service/Agency intelligence systems; Interoperable joint fires, maneuver, and intelligence; and Integrated Joint Battle Management Command and Control.

This project is a continuation of efforts previously provided in project 2456 Joint Battle Center.

Beginning in FY05 this effort is transferred to Project 3043 Joint Interoperability and Integration.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME	
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3011 - Joint Battle Comman	d and Control	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		0.672		
RDT&E Articles Quantity				

Combatant Commander Capability Office (C3O): USJFCOM JI&I will continued to identify the Combatant Commanders Joint Battle Management Command and Control (BMC2) requirements. The C3O will collect Joint BMC2 information from each of the COCOM's, coordinated the prioritization of the information into COCOM's Joint BMC2 issue categories, and then worked with Services, and Agencies to identify and define DOTMLPF capability solutions. The C3O identifies the operational problems applicable from the Joint Task Force down to the Tactical Level and those areas where assistance is necessary to achieve operational enhancements with US, Allied, and Coalition forces.

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		1.735		
RDT&E Articles Quantity				

Joint Operational Concepts and Integrated Architectures. In support of Joint Battle Management Command and Control (BMC2), USJFCOM JI&I will be responsible to develop, maintain, and update Joint Mission Area Joint Operational Concepts and Integrated Architectures which support to the warfighter across the "Range of Military Operations." This Joint Operational Concept efforts will describe the doctrinally based tasks and activities, operational elements, and the time phased information flows required to accomplish Joint military operations. The Joint Integrated Architecture efforts will be utilized to assess and analyze doctrine, Tactical Technical Procedures (TTPs), system and procedural interoperability, processes, and synchronization issues that impact Joint Forces. The Joint Operational Concepts and Integrated Architectures provide the baseline to identify warfighter requirements and were developed in close coordination with OSD, Joint Staff, COCOMs, and Services.

R-1 SHOPPING LIST - Item No. 195

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 12 of 46)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	on		DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	ÄME
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3011- Joint Battle Managem	nent Command and Control
(U) B. Accomplishments/Planned Program			

	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		0.454		
RDT&E Articles Quantity				

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to define operational requirements and functional constructs for Department of Navy Deployable Joint Command and Control which supports integration with Joint BMC2, Standing Joint Force Headquarters, and Service Battle Management Command and Control capabilities and goals.

	FY03	FY04	FY05	
Accomplishments/Effort/Subtotal Cost		0.500		
RDT&E Articles Quantity				

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide **Joint En-route Mission Planning and Rehearsal capabilities** across the Regional Combatant Commanders and Service Components to support the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY03	FY04	FY05	FY06
Accomplishments/Effort/Subtotal Cost		2.212		
RDT&E Articles Quantity				

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders the **ability to exchange information between multiple security domains** among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

R-1 SHOPPING LIST - Item No. 195

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 13 of 46)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3011 - Joint Battle Manager	nent Command and Control

(U) B. Accomplishments/Planned Program

	FY03	FY04	FY05	
Accomplishments/Effort/Subtotal Cost		0.916		
RDT&E Articles Quantity				

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders and Service Components **Defense Collaborative Planning Tool Suite (DCTS) capabilities** to support the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY03	FY04	FY05	
Accomplishments/Effort/Subtotal Cost		1.007		
RDT&E Articles Quantity				

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders the ability with **dynamic bandwidth capabilities** among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	ÎAME
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3011 - Joint Battle Manager	nent Command and Control
	_	•	

(U) B. Accomplishments/Planned Program

	FY03	FY04	FY05	
Accomplishments/Effort/Subtotal Cost		1.857		
RDT&E Articles Quantity				

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders with **integrated Service and Agencies Intelligence capabilities** among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY03	FY04	FY05	
Accomplishments/Effort/Subtotal Cost		1.501		
RDT&E Articles Quantity				

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders with **integrated Combat Identification and Situational Awareness capabilities** among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global war on Terrorism (GWOT) and in multiple theaters of operations.

	FY03	FY04	FY05	FY06
Accomplishments/Effort/Subtotal Cost		2.473		
RDT&E Articles Quantity				

USJFCOM JI&I is continuing to execute Joint Requirement Oversight Council endorsed prioritized recommendations to address critical Joint Task Force (JTF) Command and Control (C2) legacy shortfalls as tasked by the Deputy Secretary of Defense (DepSecDef). The recommendations resolve critical JTF interoperability and integration efforts associated with Command and Control (C2) between the Operational and Tactical Level of operations; Improvements in Situational Awareness (SA) between the Strategic, Operational, and Tactical Levels of war; Improvements in US Service integration of Intelligence, Surveillance, and Reconnaissance (ISR) assets utilized in Intelligence Preparation of the Battlefield (IPB) and Information Operations (IO); Improvements in Information Management (IM) exploitation at the Operational Level of war and protection against attack; Improvements in Information Assurance (IA) for coordination among and between Multi-National and Interagency efforts for on-going global operations.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	İAME
RDT&E, N /BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3011 - Joint Battle Managen	nent Command and Control

(U) B. Accomplishments/Planned Program

	FY03	FY04	FY05	FY06
Accomplishments/Effort/Subtotal Cost		4.527		
RDT&E Articles Quantity				

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders with Common Operational and Tactical Pictures capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY03	FY04	FY05	
Accomplishments/Effort/Subtotal Cost		3.022		
RDT&E Articles Quantity				

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders with Interoperable Joint Fires, Manuever, and Intelligence capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY03	FY04	FY05	
Accomplishments/Effort/Subtotal Cost		5.221		
RDT&E Articles Quantity				

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders with integrated Joint Battle Management Command and Control capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:					
						February 2004			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELE	MENT NUMBER	AND NAME		PROJECT NUMBER AND NAME				
RDT&E, N / BA-7	0305188N - Joir	nt C4ISR Battle Ce	enter (JBC)		3011 - Joint Battle Management Command and Control				
(U) C. PROGRAM CHANGE SUMMARY:									
(U) Funding: FY04 President's Budget FY05 President's Budget Total Adjustments		FY 2003 0.000 0.000 0.000	FY 2004 26.391 26.097 -0.294	FY 2005 27.213 0.000 -27.213					
Summary of Adjustments									
Section 8094: Management In Section 8126: Efficiencies/Rev Assign new RDTEN project for Jb	Econ Assumptions		-0.070 -0.224	-27.213					
Subtotal		0.000	-0.294	-27.213					
(U) Schedule:									
Not Applicable									
тет фриссов									
(U) Technical:									
Not Applicable									
			NO LIOT II	NI.	105				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E	= Project Justification							DATE:			
									Februa	ary 2004	
APPROPRIATION/BUDGE			LEMENT NUM			PROJECT NU					
RDT&E, N /	BA-7	0305188N - J	3011 - Joint B	attle Manager	nent Command	and Control					
(U) D. OTHER PRO	GRAM FUNDING SUMMARY:								То	Total	
Line Item No. & Na	<u>ame</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost	
Not Applicable											
(U) E. ACQUISITION	STRATEGY: *										
Not Applicable.											
(U) F. MAJOR PERFO	ORMERS: **										
None											
* Not required for F	Budget Activities 1,2,3, and 6										
** Required for DON	and OSD submit only.										

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	ge 1)										February 20	04	
APPROPRIATION/BUDGET ACTIV	ΊΤΥ		PROGRAM E	LEMENT			PROJECT N	JMBER AN	D NAME				
RDT&E, N / BA-7			0305188N - J	loint C4ISR Bat	tle Center (JBC		3011 - Joint E	Battle Mana	gement Command		l		
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method & Type	Activity & Location		PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	0.000	1
Ancillary Hardware Development										1		0.000	
Aircraft Integration												0.000	
Ship Integration												0.000	
Ship Suitability												0.000	
Systems Engineering												0.000	1
Training Development												0.000	
Licenses												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal Product Development				0.000	0.000		0.000)	0.00	0	0.00		
Development Support												0.000	
Software Development												0.000	
Integrated Logistics Support												0.000	
Configuration Management												0.000	
Technical Data												0.000	
Studies & Analyses												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal Support				0.000	0.000)	0.000)	0.00	0	0.00	0.000	
Remarks:													
				D_1 SHOE	TO LIGHT	- Itom No	105						

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)										February 200)4	
APPROPRIATION/BUDGET ACTIVI	TY		PROGRAM EL				PROJECT NU						
RDT&E, N / BA-7			0305188N - Jo	int C4ISR Batt	e Center (JBC)				ent Command				
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method	Activity &				Award		Award	FY 05	Award			Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete		of Contract
Contractor Support												0.000	
Government Support	MIPR	Various DoD					26.097	Various			0.000		
Contractor Support												0.000	
Contractor Support												0.000	
Travel		1										0.000	
		1										0.000	
Subtotal T&E				0.000	0.000		26.097		0.000)	0.000	26.097	
Contractor Engineering Support							1					0.000	
Government Engineering Support												0.000	
Program Management Support												0.000	
Travel												0.000	
Transportation												0.000	
SBIR Assessment												0.000	
Subtotal Management				0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:													
Total Cost					0.000		26.097		0.000		0.000	26.097	
Remarks:					DINO LIGT		405						

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	ıary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	EMENT NUME	BER AND NAM	IE .	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0305188N - Jo	int C4ISR Batt	le Center (JBC)	1		3043 - Joint In	teroperability a	nd Integration			
	Prior										Total
COST (\$ in Millions)	Years Cost	FY2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program
Project Cost		18.561	8.269	43.569	43.875	43.228	44.532	45.734		Continuing	Continuing
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Continuation of The Unified Command Plan 2002 assigned Commander, USJFCOM with the mission as the Joint Force Integrator. Additionally, the Chairman Joint Chiefs of Staff (CJCS) designated Commander, USJFCOM as lead agent to transform the Armed Forces. In support of these two missions, USJFCOM Joint Interoperability and Integration (JI&I), located within Headquarters USJFCOM, is responsible for joint interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. USJFCOM JI&I works closely with Combatant Commanders,/Services/Agencies (C/S/A) to ensure warfighting deficiencies are identified, develops synchronized Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) plans to ensure the warfighter has interoperable capabilities, and provides prioritized recommendations for Joint Requirement Oversight Council (JROC) endorsement. A USJFCOM JI&I transition fund supports the DOTMLPF synchronization plan concept allowing for rapid insertion of capabilities into the field while serving as a bridge until the next Service or Agency POM cycle. For future required capabilities critical to joint warfighting, USJFCOM JI&I is responsible to review and confirm all Department of Defense (DoD) Capability Development Documents (CPDs), Capstone Requirement Documents (CRDs), Capability Production Documents (CPDs), and C4I Support Plans (C4ISPs) for interoperability key performance parameters (IKPPs), information exchange requirements (IERs), and operational architecture views (OVs) in accordance with Department of Defense and Chairman Joint Chiefs of Staff directions and instructions.

In addition, Management Initiative Decision (MID) 912 signed 7 January 2003 expanded the JI&I operational role through tactical level joint integration of the following capabilities: Common Operational and Tactical Pictures; Combat Identification; Situational Awareness; Adaptive Mission Planning and Rehearsal; Interoperability among Service/Agency intelligence systems; Interoperable joint fires, maneuver, and intelligence; and Integrated Joint Battle Management Command and Control.

R-1 SHOPPING LIST - Item No.

195

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	on		DATE:	
			February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3043 - Joint Interoperability and Integration		

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.400	0.672	1.634
RDT&E Articles Quantity			

Combatant Commander Capability Office (C3O): USJFCOM JI&I will continued to identify the Combatant Commanders Joint Battle Management Command and Control (BMC2) requirements. The C3O will collect Joint BMC2 information from each of the COCOM's, coordinated the prioritization of the information into COCOM's Joint BMC2 issue categories, and then worked with Services, and Agencies to identify and define DOTMLPF capability solutions. The C3O identifies the operational problems applicable from the Joint Task Force down to the Tactical Level and those areas where assistance is necessary to achieve operational enhancements with US, Allied, and Coalition forces.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.500	1.735	3.400
RDT&E Articles Quantity			

Joint Operational Concepts and Integrated Architectures. In support of Joint Battle Management Command and Control (BMC2), USJFCOM JI&I will be responsible to develop, maintain, and update Joint Mission Area Joint Operational Concepts and Integrated Architectures which support to the warfighter across the "Range of Military Operations." This Joint Operational Concept efforts will describe the doctrinally based tasks and activities, operational elements, and the time phased information flows required to accomplish Joint military operations. The Joint Integrated Architecture efforts will be utilized to assess and analyze doctrine, Tactical Technical Procedures (TTPs), system and procedural interoperability, processes, and synchronization issues that impact Joint Forces. The Joint Operational Concepts and Integrated Architectures provide the baseline to identify warfighter requirements and were developed in close coordination with OSD, Joint Staff, COCOMs, and Services.

R-1 SHOPPING LIST - Item No. 195

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 22 of 46)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME	
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3043 - Joint Interoperability	and Integration	
	·	-	•	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.400	0.454	0.550
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to define operational requirements and functional constructs for Department of Navy Deployable Joint Command and Control which supports integration with Joint BMC2, Standing Joint Force Headquarters, and Service Battle Management Command and Control capabilities and goals.

	FY03	FY04	FY05
Accomplishments/Effort/Subtotal Cost	1.300	8.022	6.400
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Joint En-route Mission Planning and Rehearsal capabilities across the Regional Combatant Commanders and Service Components to support the Global War on Terrorism (GWOT) and in multiple theaters of operations. (plus up of \$1.880 for FY04 IAW FY2001 Appropriation for Military Construction (Public Law 106-246 dtd 13 July 2000)

	FY03	FY04	FY05
Accomplishments/Effort/Subtotal Cost	1.350	2.212	1.950
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders the ability to exchange information between multiple security domains among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

R-1 SHOPPING LIST - Item No. 195

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 23 of 46)

CLASSIFICATION:

APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME February 2004 PROJECT NUMBER AND NAME	EXHIBIT R-2a, RDT&E Project Justification			DATE:	
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME					February 2004
	APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7 0305188N - Joint C4ISR Battle Center (JBC) 3043 - Joint Interoperability and Integration	RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3043 - Joint Interoperability and Integration		

(U) B. Accomplishments/Planned Program

	FY03	FY04	FY05
Accomplishments/Effort/Subtotal Cost	1.900		
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute efforts to commence integration among ground maneuver elements between US Army and US Marine Corps battlefield capabilities. This effort included development of Concept of Operations, information exchange requirements, Tactics/Techniques/Procedures, technical interfaces, and associated test plans. USJFCOM JI&I plans to finish execution of this initiative in Fiscal Year 2003 with validation of CONOPs, TTPs, and field testing.

	FY03	FY04	FY05
Accomplishments/Effort/Subtotal Cost	1.250	0.916	1.000
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders and Service Components Defense Collaborative Planning Tool Suite (DCTS) capabilities to support the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY03	FY04	FY05
Accomplishments/Effort/Subtotal Cost	0.700	1.007	1.200
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders the ability with dynamic bandwidth capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	n		DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	ÄME
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3043 - Joint Interoperability and Integration	

(U) B. Accomplishments/Planned Program

	FY03	FY04	FY05
Accomplishments/Effort/Subtotal Cost		1.857	3.000
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders with integrated Service and Agencies Intelligence capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY03	FY04	FY05
Accomplishments/Effort/Subtotal Cost		1.501	2.550
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders with integrated Combat Identification and Situational Awareness capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global war on Terrorism (GWOT) and in multiple theaters of operations.

	FY03	FY04	FY05
Accomplishments/Effort/Subtotal Cost	7.631	2.473	4.250
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute Joint Requirement Oversight Council endorsed prioritized recommendations to address critical Joint Task Force (JTF) Command and Control (C2) legacy shortfalls as tasked by the Deputy Secretary of Defense (DepSecDef). The recommendations resolve critical JTF interoperability and integration efforts associated with Command and Control (C2) between the Operational and Tactical Level of operations; Improvements in Situational Awareness (SA) between the Strategic, Operational, and Tactical Levels of war; Improvements in US Service integration of Intelligence, Surveillance, and Reconnaissance (ISR) assets utilized in Intelligence Preparation of the Battlefield (IPB) and Information Operations (IO); Improvements in Information Management (IM) exploitation at the Operational Level of war and protection against attack; Improvements in Information Assurance (IA) for coordination among and between Multi-National and Interagency efforts for on-going global operations.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME
RDT&E, N /BA-7	0305188N - Joint C4ISR Battle Center (JBC)	3043 - Joint Interoperability	and Integration

(U) B. Accomplishments/Planned Program

	FY03	FY04	FY05
Accomplishments/Effort/Subtotal Cost	1.400	4.527	6.227
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff directives to provide Regional and Functional Combatant Commanders with Common Operational and Tactical Pictures capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY03	FY04	FY05
Accomplishments/Effort/Subtotal Cost	1.200	3.022	4.000
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders with Interoperable Joint Fires, Manuever, and Intelligence capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

	FY03	FY04	FY05
Accomplishments/Effort/Subtotal Cost	0.530	5.968	7.408
RDT&E Articles Quantity			

USJFCOM JI&I is continuing to execute Secretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Regional and Functional Combatant Commanders with integrated Joint Battle Management Command and Control capabilities among United States Forces, Interagencies, and Allied, and Coalition Forces in support to the Global War on Terrorism (GWOT) and in multiple theaters of operations.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:
ADDRODDIATION (DUDOUT A OTILITA)		ANDAMA		DDG IEGT III II IBED AND I	February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER			PROJECT NUMBER AND N	
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle C	enter (JBC)		3043 - Joint Interoperability	and integation
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding: FY04 President's Budget: FY05 President's Budget	FY 2003 13.072 18.561	FY 2004 15.385 8.269	FY 2005 15.572 43.569		
Total Adjustments	5.489	-7.116	27.997		
Summary of Adjustments					
FY03 SBIR Assessment FY03-47 IR Iraq Freedom Funds FY03 SBIR Assessment Sec 8094: Mgmt Improvements Sec. 8029: FFRDC Reduction Sec. 8126 Efficiencies/Revised Econ. Miscellaneous Adjustments Insufficient justification INFLATION FY05 ITR Assign new RDTEN project for JB Realign T2 Resources MID 906 (6)	C (69657)	-0.023 -0.021 -0.072 -7.000	-0.116 2.000 27.213 -1.100		
Total	5.489	-7.116	27.997		
(U) Schedule:					
Not Applicable					
(U) Technical:					
Not Applicable					
I					
	D 1 CHODD	ING LIST - Ite	om No	195	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E	E Project Justification							DATE:			
		T				T			Februa	ary 2004	
APPROPRIATION/BUDGE			LEMENT NUM			PROJECT NU					
RDT&E, N /	BA-7	0305188N - J	oint C4ISR Bat	tle Center (JB0	C)	3043 - Joint Ir	nteroperability	and Integration	l		
(U) D. OTHER PRO	OGRAM FUNDING SUMMARY:										
									То	Total	
Line Item No. & N	<u>lame</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost	
Not Applicable											
(II) E A COLUCITION	OTD ATFOY: *										
(U) E. ACQUISITION	STRATEGY:										
Not Applicable.											
(U) F. MAJOR PERFO	ORMERS: **										
	Ontilization										
None											
* Not required for I	Budget Activities 1,2,3, and 6 and OSD submit only.										
"" Kequirea for DON	and USD submit only.										

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pa	ge 1)										February 20	04	
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E	LEMENT			PROJECT N	JMBER AN	ID NAME		-		
RDT&E, N / BA-7			0305188N - J	loint C4ISR Bat	tle Center (JBC		3043 - Joint II		lity and Integation				
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method & Type	Activity & Location		PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	а туре	Location		COSt	Cost	Date	Cost	Date	Cost	Date	Complete	0.000	
Ancillary Hardware Development												0.000	
Aircraft Integration												0.000	
Ship Integration												0.000	
Ship Suitability												0.000	
Systems Engineering												0.000	
Training Development												0.000	
Licenses												0.000	
Tooling												0.000)
GFE												0.000)
Award Fees												0.000)
Subtotal Product Development				0.000	0.000		0.000)	0.000)	0.00	0.000)
Development Support												0.000)
Software Development												0.000	
Integrated Logistics Support												0.000)
Configuration Management												0.000	
Technical Data												0.000)
Studies & Analyses												0.000)
GFE												0.000	
Award Fees												0.000	
Subtotal Support				0.000	0.000)	0.000	D	0.000)	0.00	0.000)
Remarks:													
				R-1 SHOE	PPING LIST	- Itam Na	195						

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag APPROPRIATION/BUDGET ACTIVI	e 2)										February 200)4	
APPROPRIATION/BUDGÉT ACTIVI	ΓΥ		PROGRAM EL	EMENT			PROJECT NU	IMBER AND N	AME		•		
RDT&E, N / BA-7			0305188N - Jo	int C4ISR Batt	le Center (JBC)	3043 - Joint In	teroperability a	and Integration				
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method	Activity &			FY 03	Award	FY 04	Award		Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Contractor Support	C-CPFF	SAIC			1.950	10/02	5.800	10/03	3.170	10/04	Continuing	Continuing	Continuing
Government Support	MIPR	Various DoD			14.230	Various	24.116	Various	37.449	Various	Continuing	Continuing	Continuing
Contractor Support	C-CPFF	ODU			0.980	10/02	2.050	10/03	1.350	10/04	Continuing	Continuing	Continuing
Contractor Support	C-CPFF	GD/BAH			1.220	10/02	2.050	10/03	1.500	10/04	Continuing	Continuing	Continuing
Travel		Various DoD			0.181	Various	0.350	Various	0.100	Various	Continuing	Continuing	Continuing
												0.000	
Subtotal T&E				0.000	18.561		34.366		43.569		Continuing	Continuing	
Contractor Engineering Support Government Engineering Support Program Management Support Travel Transportation												0.000 0.000 0.000 0.000 0.000	
Subtotal Management				0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:		1											
Total Cost	1				18.561		34.366	<u> </u>	43.569		Continuing	Continuing	
Remarks:													

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R4, Schedule																					DATE		F	ebrua	ry 20	04		
APPROPRIATION/BUDGE						GRAM											PROJ											
RDT&E, N /	BA-7				0305	188N	- Join	t C4IS	R Bat	tle Ce	enter (JBC)					X304	3 - Jo	int Inte	erope	rability T	/ and I	ntegra	ation				
Fiscal Year		20	03			20	04	1		20	05	1		20	006	1		20	07	1		20	08	,		200	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
				l	NO.	TITL	E 10	AC	QU	ISIT	ION	AU	THC	RIT	Υ /	FOF	₹M N	TO	AP	PLIC	САВ	LE						
Test & Evaluation Milestones																												
Production Milestones																												
Deliveries																												

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE:		
,						February 200	4
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELE	MENT		PROJECT NUM	BER AND NAME	,	
			e Center (JBC)	X3043 - Joint II			
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Not applicable.							

R-1 SHOPPING LIST - Item No.

195

UNCLASSIFIED

Exhibit R-4a, Schedule Detail (Exhibit R-4a, Page 32 of 46)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febr	uary 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EI	EMENT NUM	BER AND NAM	ИΕ	PROJECT NU	IMBER AND N	AME			
RDT&E, N / BA-7	0305188N -	Joint C4ISR B	attle Center ((JBC)		9283 - Strate	gic Interoper	ability Initiativ	е		
		Prior									Total
COST (\$ in Millions)		Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost			2.693							0.000	2.693
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The purpose of the Strategic Interoperability Initiative (SII) is to improve interoperability in support of the Combatant Commanders by identifying and assessing proven government and commercial interoperability related standards, technologies, innovations, and processes. The objective is improving Joint Task Force (JTF) Command and Control (C2) interoperability and developing more effective approaches for defining interoperability, information management, and legacy requirements for future DoD and Homeland Security systems.

CLASSIFICATION:

				DATE:
				February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME	PROJECT NUMBER AND I	NAME
RDT&E, N /BA-7	0305188N - Joint C4ISR Battle	e Center (JBC)	9283 - Strategic Interope	rability Initiative
J) B. Accomplishments/Planned Program	EV 00	57/04	51/05	1
STRATEGIC INTEROPERABILITY INITIATIVE Accomplishments/Effort/Subtotal Cost	FY 03 2.693	FY 04	FY 05	-
RDT&E Articles Quantity	2.093			-
NOTAL Articles Quartity				1
for the success of this overarching interoperability processolutions, evaluates the solutions, and then supports field to-end interoperability.				

CLASSIFICATION:

	ENT NUMBER AND NAME t C4ISR Battle Center (JBC) FY 2003		PROJECT NUMBER AI 9283 - Strategic Inter		February 2004
	t C4ISR Battle Center (JBC)				
0305188N - Join			9283 - Strategic Inter	operability Initiative	
	FY 2003				
	FY 2003				
		FY 2004	FY 2005		
	2.764	0.000	0.000		
	2.693	0.000	0.000		
	-0.071	0.000	0.000		
	-0.071				
_	-0.071	0.000	0.000		
_	_	-0.071 -0.071	-0.071 0.000 -0.071 -0.071 0.000	-0.071	-0.071

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Pr	oject Justification		DATE:								
									Februa	ry 2004	
APPROPRIATION/BUDGET AC				BER AND NAM		PROJECT NU	MBER AND NA	AME			
RDT&E, N /	BA-7	0305188N -	Joint C4ISR E	Battle Center	(JBC)	9283 - Strate	gic Interopera	ability Initiativ	е		
(U) D. OTHER PROGRA	AM FUNDING SUMMARY:								To	Total	
Line Item No. & Name		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost	
Not Applicable											
(U) E. ACQUISITION STRA	ATEGY: *										
FY 2003. The JBC from the GSA scheo	has a services contract to support the lule.	Strategic Interop	erability Initiati	ve efforts. Equ	ipment require	ed to support thi	s effort are eith	ner bought from	m other service c	ontracts and/or	
* Not required for Budg	get Activities 1,2,3, and 6										

CLASSIFICATION:

						DATE:								
Exhibit R-3 Cost Analysis (pa	age 1)									February	2004			
APPROPRIATION/BUDGET ACTI	VITY	PROGRAM E				PROJECT N								
RDT&E, N / BA-7			Joint C4ISR I	Battle Center		9283 - Strate		erability Initiativ						
Cost Categories	Contract		Total		FY 03		FY 04		FY 05					
	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	To Co	otal	Target Value of Contract	
Day Company Family Approximation			Cost	1	+	Cost	Date	Cost	Date					
Dev Support Equip Acquisition	MIPR	GSA Schedule		0.200							000	0.200	0.200	
Systems Engineering	C-CPFF	South Carolina Res		2.492	2 08/03					0.	000	2.492	9.870	
Systems Engineering											-	0.000		
Gov't Engineering Support												0.000		
Contractor Engineering Support												0.000		
Gov't Engineering Support												0.000		
Travel		Various DoD		0.00	1 Various							0.001		
												0.000		
												0.000		
												0.000		
												0.000		
Subtotal Product Development			0.000	2.693	3	0.000	o	0.000		0.	000	2.693		
Systems Engineering Support										0.	000	0.000		
Contractor Engineering Support										0.	000	0.000		
Gov't Engineering Support										0.	000	0.000		
Travel										0.	000	0.000		
Technical Data												0.000		
Studies & Analyses												0.000		
GFE												0.000		
Award Fees												0.000		
Subtotal Support			0.000	0.000	0	0.000	o	0.000)	0.	000	0.000		
Remarks:														
			R-1 SHOE	TOLL DIVIDE	- Itom No	105								

CLASSIFICATION:

									DATE:				1
Exhibit R-3 Cost Analysis (pag	ıo 2)								DATE:		February 200	м	
APPROPRIATION/BUDGET ACTIV	ITY		PROGRAM E	LEMENT			PROJECT NU	IMBER AND N	IAME		rebluary 200	<i>)</i> 4	
RDT&E, N / BA-7				Joint C4ISR B	attle Center	(JBC)			ability Initiativ	۵.			
Cost Categories	Contract	Performing	000010011	Total	attio Comoi	FY 03	OZOO Guate	FY 04		FY 05			
C	Method	Activity &			FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete		of Contract
Dev Support Equip Acquisition											0.000	0.000	
Systems Engineering											0.000	0.000	
Systems Engineering											0.000	0.000	
Contractor Engineering Support											0.000	0.000	
Gov't Engineering Support											0.000	0.000	
Contractor Engineering Support											0.000	0.000	
Travel											0.000	0.000	
Subtotal T&E				0.000	0.000		0.000		0.000		0.000	0.000	
Contractor Engineering Support												0.000	
Government Engineering Support												0.000	
Program Management Support												0.000	
Travel												0.000	
Transportation												0.000	
												0.000	
Subtotal Management				0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:													
Total Cost				0.000	2.693		0.000		0.000		0.000	2.693	
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																					DATE	:	F	ebrua	rv 20	04		
APPROPRIATION/BUDGET ACTIVITY										R AND								ECT N								-		
RDT&E, N / BA-7					0305	188N	- Joint	C4IS	R Bat	tle Ce	nter (JBC)					9283	- Stra	tegic I	Intero	oerabi	lity Ini	tiative	9				
Fiscal Year		20	03			20	04			200	05			20	006			20	07			20	80	1		200)9	ı
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
	E 10) AC	QU	ISIT	ION	ΑU	THC	RIT	Υ /	FO	RM	NOT	AP	PLIC	CAB	LE												
Test & Evaluation Milestones																												
Production Milestones																												
Deliveries																												

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						F	ebruary 200	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EL	EMENT			PROJECT NU			
RDT&BA-7	0305188N - J	Joint C4ISR B	attle Center ((JBC)	9283 - Strate	gic Interopera	ability Initiative)
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006			FY 2009
Not Applicable.								
					<u> </u>			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:				
									Febr	uary 2004		
APPROPRIATION/BUDGET ACTIVITY												
RDT&E, N / BA-7	0305188N - Jo	oint C4ISR Batt	tle Center (JBC)		9431 - Joint Enroute Mission Planning and Rehearsal						
	Prior										Total	
COST (\$ in Millions)	Years Cost	FY2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Program	
Project Cost			1.978							0.000	1.978	
RDT&E Articles Qty											0	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Continuation of The Unified Command Plan 2002 assigned Commander, USJFCOM with the mission as the Joint Force Integrator. Additionally, the Chairman Joint Chiefs of Staff (CJCS) designated Commander, USJFCOM as lead agent to transform the Armed Forces. In support of these two missions, USJFCOM Joint Interoperability and Integration (JI&I), located within Headquarters USJFCOM, is responsible for joint interoperability and integration of future and fielded capabilities critical to Joint, Multi-National, and Interagency warfighting operations. USJFCOM JI&I works closely with Combatant Commanders,/Services/Agencies (C/S/A) to ensure warfighting deficiencies are identified, develops synchronized Doctrine, Organizational, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) plans to ensure the warfighter has interoperable capabilities, and provides prioritized recommendations for Joint Requirement Oversight Council (JROC) endorsement. A USJFCOM JI&I transition fund supports the DOTMLPF synchronization plan concept allowing for rapid insertion of capabilities into the field while serving as a bridge until the next Service or Agency POM cycle. For future required capabilities critical to joint warfighting, USJFCOM JI&I is responsible to review and confirm all Department of Defense (DoD) Capability Development Documents (CPDs), Capstone Requirement Documents (CRDs), Capability Production Documents (CPDs), and C4I Support Plans (C4ISPs) for interoperability key performance parameters (IKPPs), information exchange requirements (IERs), and operational architecture views (OVs) in accordance with Department of Defense and Chairman Joint Chiefs of Staff directions and instructions.

In addition, Management Initiative Decision (MID) 912 signed 7 January 2003 expanded the JI&I operational role through tactical level joint integration of the following capabilities: Common Operational and Tactical Pictures; Combat Identification; Situational Awareness; Adaptive Mission Planning and Rehearsal; Interoperability among Service/Agency intelligence systems; Interoperable joint fires, maneuver, and intelligence; and Integrated Joint Battle Management Command and Control.

Congressional Add Project 9431: JFCOM JI&I received \$2.0M in FY04 only for the Joint Enroute Mission Planning Rehearsal System - Near Term (JEMPRS NT).

CLASSIFICATION:

HIBIT R-2a, RDT&E Project Justification								
IDDOCDAM ELEMENT NUM	ADED AND NAME	IDDO IECT NILIMBED AND	February 2004					
0305188N - Joint C4ISR Ba	ittle Center (JBC)	9431 - Joint Enroute Missi	on Planning and Rehearsal					
FY 03	FY 04	FY 05	٦					
	1.978		7					
FY03	FY04	FY05						
FY03	FY04	FY05						
FY03	FY04	FY05	7					
	FY 03 FY 03 Fretary of Defense and Chairmat Commanders and Service Commanders	retary of Defense and Chairman Joint Chiefs of Staff t Commanders and Service Components to support to	9431 - Joint Enroute Mission FY 03 FY 04 FY 05 1.978 Pretary of Defense and Chairman Joint Chiefs of Staff efforts to provide Joint En-ro the Commanders and Service Components to support the Global War on Terrorism (

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:							
				February 2004						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME		PROJECT NUMBER AND NAME						
RDT&E, N / BA-7	0305188N - Joint C4ISR Battle Ce	enter (JBC)		9431-Joint Enroute Mission Planning and Rehearsal						
(U) C. PROGRAM CHANGE SUMMARY:										
(U) Funding: FY04 President's Budget	FY 2003	FY 2004 0.000	FY 2005							
FY05 President's Budget		1.978								
Total Adjustments	0.000	1.978	0.000	•						
Summary of Adjustments										
Issue 68586 - JEMPRS-NT		2.000								
Issue 68041 - Section 8094: Manag		-0.005								
Issue 68066 - Section 8126: Efficien	ncies/Rev Econ Assumptions	-0.017								
Total	0.000	1.978	0.000	-						
Total	0.000	1.570	0.000							
(U) Schedule:										
Not Applicable										
Not Applicable										
(U) Technical:										
Not Applicable										
	D 1 SHODD	INIO LIOT II		105						

CLASSIFICATION:

EXHIBIT R-2a, RDT&E	= Project Justification							DATE:			
									Februa	ary 2004	
APPROPRIATION/BUDGE				IBER AND NAI		PROJECT NU					
RDT&E, N /	BA-7	0305188N - J	oint C4ISR Bat	ttle Center (JBC	C)	9431 - Joint E	nroute Mission	n Planning and	Rehearsal		
(U) D. OTHER PRO	GRAM FUNDING SUMMARY:								То	Total	
Line Item No. & Na	<u>ame</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost	
Not Applicable											
(U) E. ACQUISITION S	STRATEGY: *										
Not Applicable.											
(U) F. MAJOR PERFO	ORMERS: **										
None											
* Not required for E ** Required for DON	Budget Activities 1,2,3, and 6 and OSD submit only.										

CLASSIFICATION:

	DATE:												
Exhibit R-3 Cost Analysis (pa	ge 1)										February 20	04	
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E	LEMENT			PROJECT NU	JMBER AN	ID NAME		<u>-</u>		
RDT&E, N / BA-7			0305188N - J	loint C4ISR Bat	tle Center (JBC		9431 - Joint E		sion Planning and				
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method & Type	Activity & Location		PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	ос туре	LUCATION		Cost	Cosi	Date	Cost	Date	Cost	Date	Complete	0.000	
Ancillary Hardware Development												0.000	
Aircraft Integration												0.000	
Ship Integration												0.000	
Ship Suitability												0.000	
Systems Engineering												0.000	
Training Development												0.000	
Licenses												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal Product Development				0.000	0.000		0.000)	0.000)	0.000		
Development Support												0.000)
Software Development												0.000)
Integrated Logistics Support												0.000)
Configuration Management												0.000	
Technical Data												0.000)
Studies & Analyses												0.000)
GFE												0.000	
Award Fees												0.000	
Subtotal Support				0.000	0.000)	0.000)	0.000)	0.000	0.000)
Remarks:													
<u>l</u>				R-1 SHOE	PPING LIST	- Item No	195						

CLASSIFICATION:

											DATE:						
Exhibit R-3 Cost Anal	lysis (page 2)	1										February 200	4				
APPROPRIATION/BUDG	ET ACTIVITY			PROGRAM EI	LEMENT			PROJECT NU	MBER AND N	AME		•					
	BA-7			0305188N - Jo	oint C4ISR Battl			9431 - Joint Er		Planning and R	Rehearsal						
Cost Categories	Me	thod	Performing Activity & Location				FY 03 Award Date	FY 04	FY 04 Award Date	FY 05			Total Cost	Target Value of Contract			
Contractor Support													0.000				
Government Support	MI	PR	Various DoD					1.978	Various			0.000	1.978				
Contractor Support													0.000				
Contractor Support													0.000				
Travel													0.000				
													0.000				
Subtotal T&E					0.000	0.000		1.978		0.000		0.000	1.978				
		ı			T			T		Т	Т	Т	0.000				
Contractor Engineering Supp													0.000				
Government Engineering Su													0.000				
Program Management Supp	ort												0.000				
Travel													0.000				
Transportation													0.000				
Subtotal Management					0.000	0.000		0.000		0.000		0.000	0.000				
Remarks:																	
Total Cost						0.000		1.978		0.000		0.000	1.978				
Remarks:																	

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
						Februar	y 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENO	CLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA-7			0305204N Tactical	Unmanned Aerial	Vehicles	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	65.493	85.713	53.439	69.753	55.957	23.244	11.504
A2478 Tactical Control System	16.074	27.106	8.917	9.293	9.450	9.619	9.796
A2768 Fire Scout Vertical Takeoff & Landing UAV	39.279	36.050	42.876	58.815	44.865	11.949	
A2910 Joint Technology Center/Sys Integ Lab	1.649	1.633	1.646	1.645	1.642	1.676	1.708
A3061 Global Hawk Maritime Demo System*							
A4012 Pioneer Program	6.832	14.002					
A9155 NBC Payload	1.659						
A9432 Coastline Security Technology Initiative		1.730					
A9434 Mini Detection Devices for UAV Payload		0.989					
A9435 Precision Re-Supply Vehicle		4.203					

^{*}Global Hawk Maritime Demonstration System budget shown in Program Element 0305205N.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides for the development of Tactical Unmanned Aerial Vehicle systems that provide warfighters with dedicated day/night Aerial Reconnaissance, Surveillance and Target Acquisition (RSTA) capabilities; and, intelligence, communications/data dissemination; electronic warfare; weather data collection to support combat operations; minefield detection; and nuclear/biological/chemical reconnaissance in limited adverse weather capabilities.

Tactical Control System (TCS): TCS provides interoperability for command and control of the present and future Tactical and Medium Altitude Endurance (MAE) UAVs and their payloads utilized for RSTA and combat assessment. TCS provides connectivity to designated C4I systems for the Navy Fire Scout Vertical Takeoff and Landing (VTOL) Tactical UAV (VTUAV). TCS will also be evaluated for all future Naval UAVs. TCS is being developed in concert with the development of UAV concept of operations (CONOPS) so as to ensure system functionality within operational requirements.

Vertical Takeoff and Landing UAV (VTUAV): VTUAV (also referred to as the Fire Scout VTUAV) provides real-time and non-real-time intelligence, surveillance and reconnaissance data to tactical users, including Line-of-sight tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay), without the use of manned aircraft or reliance on limited joint theater or national assets. The Fire Scout VTUAV air vehicle is designed for modular mission payloads, autonomous vertical launch and recovery, autonomous waypoint navigation, command override capabilty, and can operate from all air capable ships as well as confined area land bases. Interoperability is achieved through the Tactical Control System (TCS) software in the ground control station, and through the use of the Tactical Common Data Link. The FY 2004 program completes initial shipboard testing and integration begins design activities for system upgrades including weaponization, survivability, plug-and-play architecture, to meet fielding on LCS in FY07, and initiates the buy of LRIP 2.

R-1 SHOPPING LIST - Item No.

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UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 46)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE:	
		February 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	305204N Tactical Unmanned Aerial Vehocle	es

JTC/SIL: The Joint Technology Center/System Integration Laboratory provides experimentation for UAV technology assessment, insertion, demonstration, transfer, as well as simulation and exercise support.

Global Hawk Maritime Demonstration (GHMD) System: Budget reflected under Program Element 0305205N.

Pioneer Unmanned Aerial Vehicle Program: The Pioneer Unmanned Aerial Vehicle (UAV) provides near real time reconnaissance, surveillance, target acquisition, combat assessment and battlefield management within LOS of a Ground Control Station (GCS) in limited weather, both day and night. Deployments have supported numerous joint military operations and contingencies including Bosnia Herzegovina, Somalia, the Adriatic, Persian Gulf operations, DESERT SHIELD and DESERT STORM and OPERATION IRAQI FREEDOM (OIF). During OIF both Marine Pioneer VMU systems were deployed and flew a total of 2357.3 hours in support of combat operations. The VMUs are preparing for future extended deployments. To date, the system has flown in excess of 26,000 flight hours.

Nuclear, Biological, Chemical (NBC) Payload: The NBC Payload is for Miniature Detection Devices as part of the Naval UAV Payload effort to be used only for the continuation of an industry based research program for light weight low power Nuclear, Chemical and Biological (NBC) sensors and isotope identification techniques utilizing Micro-Electro-Mechanical Systems (MEMS) technology and innovative detection devices to identify airborne chemical/biological threats and hazardous materials.

Coastline Security Technology Initiative: Congressional add of \$1.75M in RDT&E,N for the Coastline Security Technology Initiative that is only for continuation of work with the Institute for Ocean and Systems Engineering to develop surface and airborne autonomous and remotely operated platform surveillance systems for deployment along US Coastlines.

Miniature Detection Devices for Navy UAV Payload: Congressional add of \$1.0M in RDT&E,N. Continued development of lightweight, low power NBC sensors and isotope identification techniques utilizing MEMS technology and innovative detection devices to identify ariborne chemical/biological threats and hazardous material.

Precision Re-Supply Vehicle: Congressional add of \$4.25M in RDT&E,N for Precision Re-Supply Vehicle.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	ation						DATE:		
							Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY									
RDT&E, N / BA-7	0305204N Tactical I	0305204N Tactical Unmanned Aerial Vehicles A2478 Tactical Control System							
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
A2478 Tactical Control System		16.074	27.106	8.917	9.293	9.450	9.619	9.796	
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

*Includes the following Congressional adds: In FY2004: \$2.4M for JOTBS, less \$.027M Congressional undistributed reductions; In FY 2003: \$4.1 million for JOTBS and \$3.0 million for TCS sensor data receipt from multiple UAVs and \$1.0M for the Multiple Link Antenna System ACTD, less Congressional undistributed reductions.

The Tactical Control System (TCS) is developing a standards based system that provides interoperability and commonality for C4I interfaces and command and control for Navy Unmanned Aerial Vehicles (UAVs) including the Navy Fire Scout Vertical Takeoff and Landing (VTOL) Tactical UAV (VTUAV). TCS will also be evaluated for all future Naval UAVs.

Provides a full range of scaleable UAV capabilities from passive receipt of air vehicle and payload data to full air vehicle and payload command and control. TCS offers the war fighter a common core operating environment to simultaneously receive, process, and disseminate UAV data from different UAV types for reconnaissance, surveillance, and combat assessment.

Provides UAV command, control and processing from land and sea based ground stations.

TCS maximizes the use of contractor and government off-the shelf hardware and software whenever possible. TCS software is interoperable and is compliant with the OSD(C3I) Joint Technical Architecture (JTA) and Distributed Common Ground/Surface System (DCGS) standards.

TCS development continues to meet the updated VTUAV ORD requirements and add key technologies that will be used by UAV Systems.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N /BA-7	0305204N Tactical Unmanned Aerial Vehicles	A2478 Tactical Control Syst	em

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	7.474	24.733	8.917
RDT&E Articles Quantity			

FY2003: Continued TCS Fire Scout VTUAV development, including validation and flight-testing of the Fire Scout VTUAV payload functions and TCDL command and control, and initiated TCS GHMD UAV development. FY2004: Continue TCS Fire Scout VTUAV development. Complete multi-vehicle UAV control. Initiate new Fire Scout's TCS capabilities to support requirements for Littoral Combat Ship (LCS) integration. Initiate TCS STANAG 4586 compliance. Initiate TCS Command, Control, Communications, Computers and Intelligence (C4I) interface testing for Fire Scout VTUAV required C4I systems. FY2005: Continue new TCS capabilities to support requirements for Fire Scout VTUAV required C4I systems. Continue standard compliance. Continue TCS Command, Control, Communications, Computers and Intelligence (C4I) interface testing for Fire Scout VTUAV required C4I systems.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.500	0.000	0.000
RDT&E Articles Quantity			

FY2003: Continued General Test Support for Multiple Link Antenna System/Multi-function Self-Aligned Gate Array Technology (MLAS/MSAG) Advanced Concept Technology Demonstration (ACTD), including testing of tile technology and overall MLAS system at contractor and government facilities. Also includes test support at field and contractor facilities in FY03.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	4.100	2.373	0.000
RDT&E Articles Quantity			

FY2003: Developed for Joint Forces Command the capability to fly multiple dissimilar UAVs by initiating JOTBS enhancements.

FY2004: Continue JOTBS enhancements and support of UAV experimentation.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	tion		DATE: February 2004				
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	PROJECT NUMBER AND NAME				
DT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicle	A2478 Tactical Control Syst	em				
. Accomplishments/Planned Program (Cont.)							
	FY 03	FY 04	FY 05				
Accomplishments/Effort/Subtotal Cost	3.000	0.000	0.000				
RDT&E Articles Quantity							
TCS modifications to receive sensor data from	n a variety of UAVs, including GHMD HAE UAV.						
	FY 03	FY 04	FY 05				
Accomplishments/Effort/Subtotal Cost							
RDT&E Articles Quantity							
	FY 03	FY 04	FY 05				
Accomplishments/Effort/Subtotal Cost							
RDT&E Articles Quantity							

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:			
				February 2004			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AN	ID NAME			
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicle		A2478 Tactical Control S	ol System			
C. PROGRAM CHANGE SUMMARY:							
Funding:	FY 2003	FY 2004	FY 2005				
Previous President's Budget:	16.675	36.711	8.954				
Current BES/President's Budget	16.074	27.106	8.917				
Total Adjustments	-0.601	-9.605	-0.037				
Summary of Adjustments							
Economic Assumptions			-0.033				
Congressional Undistributed Reductions		-0.305					
Reprioritization		-11.700	-0.004				
Reprogrammings	-0.601						
Congressional Increases		2.400					
Subtotal	-0.601	-9.605	-0.037				

Schedule:

Current schedule reflects changes from the previous President's Budget submission due to program restructure and reduced funding in FY 2004. Congressional direction for TCS mandated a Navy-centric program focused on sustaining current Navy requirements. The current schedule reflects the restructured acquisition strategy for TCS to support primarily the Navy Fire Scout UAV.

Technical: Not applicable

D. OTHER PROGRAM FUNDING SUMMARY: Not applicable

E. ACQUISITION STRATEGY:

These acquisitions will be made by modifying the competitively awarded TCS contract, awarded to Raytheon in 2000; as well as, through the TCS Basic Order Agreement with Raytheon, both of which are cost plus contracts. TCS development and testing will be accomplished via a Government/Industry team.

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (page	ge 1)									February 200)4	
APPROPRIATION/BUDGET ACTIV	/ITY	PROGRAM E	LEMENT			PROJECT NU	JMBER AND N	NAME		-		
RDT&E, N / BA-7		0305204N Ta	ctical Unmanne	ed Aerial Vehic	e	A2478 Tactica	al Control Syst	em				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &	-	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	C/CPAF	Raytheon, Falls Church, VA	51.380	5.073	11/02	18.868	03/04	5.912	11/04	Continuing	Continuing	1
Ancillary Hardware Development	WX	Various	5.761							Continuing	Continuing	ı
Aircraft Integration											0.000	
Ship Integration											0.000)
Systems Engineering	WX	NAWCAD, Pax River, MD	2.321							Continuing	Continuing	
Systems Engineering	WX	NSWC-Dahlgren, VA	4.634							Continuing	Continuing	1
Training Development	WX	NSWC-IH, Indian Head, MD	5.584							Continuing	Continuing	1
Licenses											0.000	
Primary Hardware Development	C/CPIFAR	NGC-Ryan, San Diego, CA		1.571	09/03						1.571	
GFE											0.000	
Award Fees	C/CPAF	Raytheon, Falls Church, VA	2.341	1.620	06/03	3.044	03/04	0.709	06/05	Continuing	Continuing	1
Subtotal Product Development			72.021	8.264		21.912		6.621		Continuing	Continuing	1

Remarks: FY03 Primary Hardware Development was reduced to reflect moving JOTBS funding from development to testing.

Software Development	MIPR	JTC/SIL, Redstone, AL	3.800							Continuing	Continuing	
Integrated Logistics Support	WX	Various	1.460	0.170	11/02					Continuing	Continuing	
Technical Data	WX	Various	2.755							Continuing	Continuing	
Contractor Engineering Support	C/FFP	Various	0.100							Continuing	Continuing	
Government Engineering Support	WX	NAWCAD, Pax River, MD	0.300	2.122	11/02	1.686	03/04	1.481	11/04	Continuing	Continuing	
Government Engineering Support	WX	SPAWAR, San Diego, CA				0.050	03/04	0.050	11/04	Continuing	Continuing	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			8.415	2.292		1.736		1.531		Continuing	Continuing	

Remarks:

CLASSIFICATION:

									DATE:				1
Exhibit R-3 Cost Analysis (pag	e 2)								D/ (1 L.		February 200	04	
APPROPRIATION/BUDGET ACTIV	TY	F	PROGRAM E	LEMENT			PROJECT N	JMBER AND	NAME		,	·	
RDT&E, N / BA-7		(0305204N Ta	ctical Unmanne	ed Aerial Vehicl	е	A2478 Tactic	al Control Sys	tem				
Cost Categories	Contract Method	Performing Activity &		Total PY s	FY 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	WX	JITC, Indian He	ad, MD	0.990			0.150	03/04	0.350	11/04	Continuing	Continuing	
Developmental Test & Evaluation	WX	NSWC, Dahlgre	en, VA	2.051							Continuing	Continuing	
perational Test & Evaluation WX,MIPR Various			1.480							Continuing	Continuing		
Test Assets	WX	NSWC. Dahlgre	en, VA	1.000	1.500	12/03					Continuing	Continuing	
Test Assets	WX	USJFCOM, No	rfolk, VA		3.705	07/03	2.373	01/04				6.078	
GFE												0.000	
Award Fees												0.000	
Subtotal T&E				5.521	5.205		2.523	3	0.350		Continuing	Continuing	
												0.000	
												0.000	
Program Management Support	WX	Various		1.450	0.296	11/03	0.88	03/04	0.395	11/04	Continuing	Continuing	
Travel	WX	Various		1.422	0.017	11/03	0.050	03/04	0.020	11/04	Continuing	Continuing	
Transportation												0.000	
SBIR Assessment												0.000	
Subtotal Management				2.872	0.313		0.93	5	0.415		Continuing	Continuing	
Remarks:													
Total Cost				88.829	16.074		27.106	6	8.917		Continuing	Continuing	
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile	е																									DATE	<u> </u>	F	ebrua	ıry 20	04		
APPROPRIATION/BUDGET			•								PROG																ID NAM							
RDT&E, N /	BA-	7				1					03052	04N T	actica	l Unma	nned	Aerial \	/ehicle	es	1				A2478	3 Tacti	cal Co	ntrol S	System							
Fiscal Year					2003						2004				2005			2006		2007			2008			2009								
	1		2	3	4		ı	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones															FS CI	R						EC	OC on L		ight 0	T	CS/FS	IOC						
Completion of current TCS/FS Requirements																																		
New Requirements (STANAG 4586, Weaponization, Plug & Play) Development																																		
TCS GHMD Requirements Identification																																		
Test & Evaluation Milestones												Т	CS Fir	e Scot	it DT-II	В																		
Development Test TCS/FS Shipboard Testing										USS	Denvei				HSV	-X								L			OPEV	40.1						
Operational Test																				TCS/F	S Com	bined	DT/OT	-IIB			OPEV	/AL						
Production Milestones																																		
Deliveries																																		

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:				
						February 2004				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI				NUMBER AND NAME					
RDT&BA-7	0305204N Tad	ctical Unmanne	1		cal Control System					
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
T00 5' 0 (0 0 ''' 1 D (0 D)' (0 D D)				10						
TCS Fire Scout Critical Design Review (CDR)				1Q						
Early Operational Capability (EOC) on LCS-Flight 0						1Q				
TCS Fire Scout Initial Operating Capability (IOC)							1Q			
Completion of current TCS Fire Scout Requirements		1Q-4Q	1Q-4Q							
New Requirements Development (includes Standards,										
Weaponization, Plug & Play)			2Q-4Q	1Q-4Q	1Q-2Q					
TCS GHMD Requirements Identification		2Q-4Q	1Q-2Q		<u> </u>					
TCS Fire Scout DT-IIB		2Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q					
TCS/FS Shipboard Testing on USS Denver			2Q-3Q							
TCS/FS Shipboard Testing on HSV-X			4Q							
TCS Fire Scout Combined DT/OT-IIB					3Q-4Q	1Q-2Q				
TCS Fire Scout OT-IIB OPEVAL						3Q-4Q				
	1									
					+					
					1					
					1					

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
	February 2004							
APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER AND NAME								
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles A2768 Vertical Take-off Landing UAV							
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A2768 Fire Scout Vertical Take-off & Landing U	 AV	39.279	36.050	42.876	58.815	44.865	11.949	
RDT&E Articles Qty			8					_

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Fire Scout Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) was designed to provide real-time intelligence, surveillance and reconnaissance data to tactical users without the use of manned aircraft or reliance on limited joint theater or national assets. The baseline Fire Scout VTUAV can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay). The Fire Scout VTUAV launches and recovers vertically and can operate from all air capable ships as well as confined area land bases. Other characteristics include autonomous air vehicle launch and recovery, autonomous waypoint navigation with command override capability, a heavy fuel engine and the ability to incorporate Electro-Optical/Infrared/LaserDesignator-Laser Range Finder modular mission payloads. Interoperability is achieved through the use of the Tactical Common Data Link (TCDL). The data from the Fire Scout VTUAV will be provided through standard DoD Command, Control, Communications, Computers and Intelligence system, architecture and protocols.

A Fire Scout VTUAV system is composed of three air vehicles, three electro-optical/infrared/laser designator-rangefinder payloads, two Ground Control Stations (with TCS and TCDL integrated for interoperability), one UAV Common Automatic Recovery System (UCARS) for automatic take-off and landings, and associated spares and support equipment.

Fire Scout VTUAV Milestone II was approved during FY00, and LRIP was approved during FY01. In FY02, the Fire Scout VTUAV program was restructured to focus on technology development and demonstration. In FY04 the Navy reinstated Fire Scout VTUAV to field on the Littoral Combat Ship (LCS) in response to current requirements for a flexible, multi-mission VTUAV to support mission areas of Anti-Submarine Warfare. Mine Warfare and Anti-Surface Warfare.

A program to upgrade the Fire Scout VTUAV to meet the new requirements was initiated in FY04. EMD is continuing in FY04 and will include design activities for system upgrades, testing aboard the USS Denver (LPD) and HSV-X2, and TCS integration. Fabrication of the LRIP 1 system was completed in FY03. LRIP 2 was initiated in FY04. As of December 31, 2003, Fire Scout VTUAV has completed 102 flights, accumulating more than 76 flight hours.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	tion		DATE:				
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND	February 2004				
T&E, N /BA-7	0305204N Tactical Unmanned Aerial Vehicles		A2768 Vertical Take-off Landing UAV				
IQL, N / DA-1	0303204N Tactical Offinatified Aerial Verticles	A2706 Vertical Take-Off L	anding OAV				
Accomplishments/Planned Program							
toomphomionto, ramioa i rogram							
	FY 03	FY 04	FY 05				
Accomplishments/Effort/Subtotal Cost	35.052	30.565	36.450				
RDT&E Articles Quantity		8					
	FY 03	FY 04	FY 05				
Accomplishments/Effort/Subtotal Cost	FY 03 0.207	FY 04 0.732	FY 05 0.915				
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03 0.207	FY 04 0.732	FY 05 0.915				
RDT&E Articles Quantity	0.207						
'	0.207						
RDT&E Articles Quantity	0.207						
RDT&E Articles Quantity	em development.	0.732	0.915				
RDT&E Articles Quantity Continue ILS, technical data, and training syst	em development. FY 03	0.732 FY 04	0.915 FY 05				
RDT&E Articles Quantity	em development.	0.732	0.915				

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 12 of 46)

CLASSIFICATION:

	ation		DATE: February 2004				
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME					
DT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles	A2768 Vertical Take-off Lar	ding UAV				
Accomplishments/Planned Program (Cont.)	1						
	FY 03	FY 04	FY 05				
Accomplishments/Effort/Subtotal Cost	2.462	3.657	4.056				
RDT&E Articles Quantity							
	FY 03	FY 04	FY 05				
Accomplishments/Effort/Subtotal Cost							
RDT&E Articles Quantity							
	FY 03	FY 04	FY 05				
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03	FY 04	FY 05				

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAI	ΛE	PROJECT NUMBER	R AND NAME	
DT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehi	cles	A2768 Vertical Take	e-off Landing UAV	
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 20	03 FY 200	4 FY 2005		
Previous President's Budget:	38.6	31 4.00	0.000		
Current BES/President's Budget	39.2	79 36.05	0 42.876		
Total Adjustments	0.6	48 32.05	0 42.876		
Summary of Adjustments					
Congressional Undistributed Reductions		-0.45	0		
Reprioritization			42.967		
Reprogrammings	0.0	348			
Economic Assumptions			-0.091		
Congressional Increases		32.50			
Subtotal	0.0	32.05	0 42.876		

Schedule: Not applicable

Technical: Not applicable

D. OTHER PROGRAM FUNDING SUMMARY: Not applicable

E. ACQUISITION STRATEGY:

Continue sole source to Northrop Grumman to continue Engineering Manufacturing and Design of Fire Scout to increase payload capacity for weaponization. In FY04 design and development of an improved Fire Scout System initiated. LRIP 2 Air Vehicles will be procured, beginning in FY04. Full Rate Production and IOC will follow completion of OPEVAL.

R-1 SHOPPING LIST - Item No. 197

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 14 of 46)

CLASSIFICATION:

								DATE:					
Exhibit R-3 Cost Analysis (pa						February 2004							
APPROPRIATION/BUDGET ACTI	VITY	PROGRAM E	LEMENT			PROJECT NU							
RDT&E, N / BA-7			actical Unmann	ed Aerial Vehic		A2768 Vertical Take-off Landing UAV							
Cost Categories	Contract Method	Performing	Total PY s	EV 00	FY 03 Award	FY 04	FY 04	FY 05	FY 05 Award	0	T-4-1	Tanant Value	
	& Type	Activity & Location	Cost	FY 03 Cost	Award Date	Cost	Award Date	Cost	Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development		NGC-Ryan, San Diego, CA	111.893		11/02	30.565	1	36.450		Complete	213.960		
Ship Integration	PD PD	NAVSEA, Arlington, VA	3.466		11/02	00.000	11,00	00.100	11,01	Continuing	Continuing		
Ship Integration	WX	NSWC, Indian Head, MD	0.152								0.152		
- 1 - 12 - 12 - 12 - 12 - 12 - 12 - 12											0.000		
											0.000		
											0.000		
											0.000		
Award Fees	C/CPIFAF	NGC-Ryan, San Diego, CA	4.456								4.456	4.456	
											0.000		
											0.000		
											0.000		
Subtotal Product Development			119.967	35.052		30.565	;	36.450)	Continuing	Continuing		
Integrated Logistics Support	wx	Various	7.416	0.207	01/03	0.732	01/04	0.915	11/04	Continuing	Continuing		
Technical Data	wx	NSWC, Crane, IN	0.900							Continuing	Continuing		
Government Engineering Support	wx	NAWCAD, Pax River, MD	7.388	1	11/03	2.184	11/03	2.184	11/04	Continuing	Continuing		
											0.000		
											0.000		
											0.000		
											0.000		
											0.000		
Subtotal Support			15.704	2.419		2.916	i	3.099	9	Continuing	Continuing		
Remarks:													

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)									February 200)4	
APPROPRIATION/BUDGET ACTIV	ITY	PROGRAM E	LEMENT			PROJECT NU	IMBER AND	NAME		•		
RDT&E, N / BA-7		0305204N Ta	actical Unmani	ned Aerial Vehi	cles	A2768 Vertica	l Take-off Lai	nding UAV				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05			
	Method	Activity &	PY s	FY 03	Award		Award		Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date		Date		Date	Complete	Cost	of Contract
Developmental Test & Evaluation	WX	NAWC-AD, Pax River, MD	3.11		3 11/02	0.364	11/03	0.635	11/04	Continuing	Continuing	
Operational Test & Evaluation	WX	Various	1.69							Continuing	Continuing	
Developmental Test & Evaluation	WX	China Lake, CA	0.78	D		0.732	02/04	0.820	11/04	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			5.58	3 1.55	В	1.096		1.455		Continuing	Continuing	
Program Management Support	C/FFP	Various	7.37	2 0.17	0 12/02	1.423	12/03	1.822	11/04	Continuing	Continuing	
											0.000	
											0.000	
Travel	WX	Various	0.38	7 0.08	11/02	0.050	11/03	0.050	11/04	Continuing	Continuing	
											0.000	
											0.000	
Subtotal Management			7.75	0.25	0	1.473		1.872		Continuing	Continuing	
Remarks:												
Total Cost			149.01	39.27	9	36.050		42.876		Continuing	Continuing	
Remarks:												

EXHIBIT R4, Schedule Pro	file																								DAT	E:						
A DDD ODDIA TIONI/DLIDOF	T 40	TIV /1-	T\/						l D D (200			N 41	NIT N	11 18 45	<u> </u>	A N 15	> N 1 A 1			l								uary	200	4	
APPROPRIATION/BUDGE RDT&E, N /		BA-7																O NAI ehicles			PRC A276				BER	ANI	AN C	ME				
Fiscal Year						20	03				004				005	, 1011		20			7 (27)	20		•		20	80			20	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones													<u> </u>																			<u> </u>
Firescout EMD																																
																					EOO	,			IOC							l
																									\swarrow							
																									FRF							l
Test & Evaluation																																
Milestones																																
DTII																		i í	7													
Combined DT/OT II																			Λ			\wedge										
OPEVAL																							\triangle	\angle								
Shipboard Testing																																
										\triangle		\triangle									\triangle				\triangle							<u> </u>
Production Milestones																																
LRIP II Contract Award										\wedge																						
D. P. order			1																													
Deliveries																																<u> </u>
																	Qty	/ 8 (o	ne pe	er q	uarte	er)										
Air Vehicles																\wedge	abla		\bigwedge	\wedge	\wedge	\wedge	$\sqrt{}$									

Exhibit R-4a, Schedule Detail						Date:			
						Febr	uary 2004		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM	ELEMENT			PROJECT N	NUMBER ANI	D NAME		
RDT&E, N BA-7	0305204N	Tactical Unr	A2768 VTU	TUAV					
		E) (0000	E) (000 t	E) (0005	E) (0000	E) (0007	E) (0000	E) (0000	
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Acquisition Milestones									
Firescout EMD		1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q	1Q			
FRP							1Q		
IOC							1Q		
Test & Evaluation Milestones									
DT IIB		1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q				
Combined DT/OT IIB					3Q-4Q	1Q-2Q			
OPEVAL						3Q-4Q			
Shipboard Testing			2Q, 4Q			1Q	1Q		
Production Milestones									
LRIP II Contract Award			2Q						
				1	1				
Delivery									
Air Vehicles				4Q	1Q-4Q	1Q-3Q			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
	Februa	ry 2004						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0305204N Tactica	al Unmanned Aeria	l Vehicles		A2910 Joint Techn	ology Center/Syste	ms Integration Lab	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		1.649	1.633	1.646	1.645	1.642	1.676	1.708
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a center of technical excellence to support all UAV programs within the services. The mission includes Service-specific and Joint ISR programs throughout DoD. The JTC/SIL provides a Government test bed for rapid prototyping, technology insertion and transition, systems engineering, modeling/simulation, training and C4I optimization. The cornerstone of this diverse tool set is the Mulitiple Unified Simulation Environment (MUSE), which is the Department's simulation/training system of choice for ISR systems, sensors, and platforms.

The Services and Warfighting Commanders have a requirement for the capability to train with a system that provides a real-time simulation environment containing multiple intelligence systems that can be integrated with larger force-on force simulations. The MUSE creates a realistic operational environment which supports the ability to assess military utility, architecture and CONOPS development, Tactics, Techniques, and Procedures (TTP) development and refinement, conduct emerging concepts experimentation, and C4I optimization within warfighting exercises and experiments. It is the only simulation system used by the Combat Commanders and Joint Services to support command and battle staff ISR training; there is no alternative available to satisfy those requirements.

The MUSE also creates a realistic operational environment that supports an embedded training capability for multiple Program Managers; tools to minimize acquisition and life cycle cost and schedule impacts; the ability to conduct emerging concepts experimentation, future systems exploration, systems integration, and technology insertion; applications for Joint and Service-specific warfighting exercises: and C4I optimization.

MUSE is currently in use within all services and unified commands simulating PREDATOR, GLOBAL HAWK, HUNTER, Shadow 200, and PIONEER UAVs, National and commercial satellite collectors, P-3, and the U-2. During warfighting exercises, the JTC/SIL integrates imagery simulations with associated C4I systems to support execution of critical imagery processes. For those assets normally not available for training, the JTC/SIL provides surrogate systems and interfaces. Distributed training environments, virtually linking participants from various locations worldwide, are routinely supported within the MUSE architecture.

Additionally, the JTC/SIL supports a range of materiel developers, integrating prototypes and trainers into the C4I and training environments of supported units. The Tactical UAV (TUAV) ground station developed by the JTC/SIL includes an embedded MUSE trainer. Interim training capabilities for the Tactical Exploitation System (TES) are currently employed in the joint exercises.

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 19 of 46)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME
RDT&E, N / B.A. 7	0305204N Tactical Unmanned Aerial Vehicles	A2910 Joint Technology Cen	ter/Systems Integration Lab

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.326	0.311	0.326
RDT&E Articles Quantity			

Laboratory Sustainment includes government management, contracts administration, cost accounting, configuration management, administrative support of the lab, MUSE architecture development, property management/accountability, and procurement of equipment.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.823	0.822	0.820
RDT&E Articles Quantity			

MUSE Development - Initial development of UCAV-N model, continued Common Trainer for current platforms, continue to provide ISR simulation support to major exercises and demonstrations, complete integration of TENCAP simulation into PC-based MUSE, complete development of virtual SIGINT platform, continue development of Laser Designator capability, continued upgrade for National Space Assets Enhancements, continued development of UCAV model, continue C4I Enhancements, continued initial Fixed Target Damage simulation.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.500	0.500	0.500
RDT&E Articles Quantity			

Maintenance, Licenses and Equipment Purchases includes the day-to-day maintenance of lab equipment, license maintenance and license renewals from vendors for individual pieces of equipment, purchases of equipment to support the MUSE, and purchases to upgrade the MUSE capability.

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 20 of 46)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAM		PROJECT NUMBER AND	
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehic			Center/Systems Integration Lab
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 200	B FY 2004	FY 2005	
Previous President's Budget:	1.64	1.651	1.651	
Current BES/President's Budget	1.64	1.633		
Total Adjustments	0.00	-0.018	-0.005	
Summary of Adjustments				
Congressional Undistributed Reductions		-0.018		
Economic Assumptions			-0.005	
Subtotal	0.00	-0.018	-0.005	
Schedule: Not applicable				
Technical: Not applicable				
D. OTHER PROGRAM FUNDING SUMMARY:	Not applicable			
E. ACQUISITION STRATEGY: Not applic	able			

CLASSIFICATION:

Exhibit R-3 Cost Analysis (pa	ngo 1)									DATE:		February 20	24	
APPROPRIATION/BUDGET ACTI	vitv		PROGRAM E	IEMENIT				PROJECT N	IMBER AND	NAME		rebluary 200	J4	
RDT&E, N / BA-7	VIII		0305204N Ta		annad	l Δerial Vehicl	00			enter/Systems I	ntegration Lah	•		
Cost Categories	Contract	Performing	030320411 18	Total	anneu		FY 03	AZ310 JOIN	FY 04	entenoystems ii	FY 05	<u>'</u>		
	Method	Activity &		PY s	F	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	C	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	MIPR	Redstone Ars	enal, AL	1.	.033	0.823	11/02	0.822	11/03	0.82	11/04	Continuing	Continuing	
Ancillary Hardware Development													0.000	
Aircraft Integration													0.000	
Ship Integration													0.000	
Ship Suitability													0.000	
Systems Engineering													0.000	
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development				1	.033	0.823		0.822	2	0.82	0	Continuing	Continuing	
Development Support	MIPR	Redstone Ars	enal, AL	0	.900	0.500	11/02	0.500	11/03	0.50	0 11/04	Continuing	Continuing	
Software Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
Studies & Analyses													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support				0	.900	0.500		0.500	D	0.50	0	Continuing	Continuing	
Remarks:														

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	ge 2)										February 200	4	
APPROPRIATION/BUDGET ACTIV	ÎTY		PROGRAM ELE	MENT			PROJECT N	JMBER AND	NAME				
RDT&E, N / BA-7			0305204N Tactio	al Unmanne	ed Aerial Vehic	les	A2910 Joint T	echnology Ce	enter/Systems In				
Cost Categories	Contract	Performing		otal		FY 03		FY 04		FY 05			
	Method	Activity &		/ s	FY 03	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date		Total	Target Value of Contract
Developmental Test & Evaluation	& Type	Location	C	ost	Cost	Date	Cost	Date	Cost	Date	Complete	0.000	or Contract
Operational Test & Evaluation												0.000	
Live Fire Test & Evaluation												0.000	
												0.000	
Test Assets													
Tooling GFE												0.000	
Award Fees												0.000	
Subtotal T&E	<u> </u>	<u> </u>		0.000	0.000)	0.000)	0.000)[0.000	0.000	
Contractor Engineering Support	MIPR	Redstone Ars	senal, AL	0.353	0.320	11/02	0.311	11/03	0.326	11/04	Continuing	Continuing	
Government Engineering Support												0.000	
Program Management Support												0.000	
Travel												0.000	
Transportation												0.000	
SBIR Assessment												0.000	
Subtotal Management				0.353	0.320	6	0.311		0.326	5	Continuing	Continuing	
Remarks:													
Total Cost				2.286	1.649	9	1.633	3	1.646	3	Continuing	Continuing	
Remarks:												· · · · · · · · · · · · · · · · · · ·	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:						
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	ER AND NAME		
RDT&E, N / BA-7	0305204N Tactica	al Unmanned Aeria	l Vehicles		A4012 Pioneer			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		6.832	14.002					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Pioneer Unmanned Aerial Vehicle (UAV) provides near real- time reconnaissance, surveillance, target acquisition, combat assessment and battlefield management within LOS of a Ground Control Station (GCS) in limited weather, both day and night. Deployments have supported numerous joint military operations and contingencies including Bosnia Herzegovina, Somalia, the Adriatic, Persian Gulf operations, DESERT SHIELD and DESERT STORM and OPERATION IRAQI FREEDOM (OIF). During OIF both Marine Pioneer VMU systems were deployed and flew a total of 2357.3 hours in support of combat operations. The VMUs are preparing for future extended deployments. To date, the system has flown in excess of 26,000 flight hours.

The Pioneer Program addresses the critical issues facing the Pioneer system; obsolescence, and mobility. The acquisition strategy uses an Engineering Change Proposal approach, focusing on the most urgent user needs. The mobility enhancements consist of down-sized trailer-mounted launchers, HMMWV-mounted GCS, and UAV transport trailers for improved mobility in theater via C-130 aircraft. To meet the payload shortfall, the Pioneer Program will procure additional Army Shadow TUAV Plug-in Optronic Payloads (POP) 200. A new engine is also planned to replace the current engine that has shown reliability issues and is increasingly difficult to sustain due to limited spares.

Pioneer is fielded with two operational systems which support USMC land based operations. A third system supports training requirements and the fourth supports test and evaluation.

Each operational systems consists of: Five air vehicles that have electro-optical (EO) and infrared (IR) payloads; One GCS; One portable control station; One tracking and communications unit; One to four remote receiving stations.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificat	ion		DATE: February 2004	
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N		
DT&E, N / B.A. 7	0305204N Tactical Unmanned Aerial Vehicles	A4012 Pioneer		
. Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	4.398	12.059		
RDT&E Articles Quantity				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	2.434	1.943	1 1 00	
RDT&E Articles Quantity				
Government Engineering, Developmental Testi	шу, гтоугаш манадешен Зирроп.			
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
L				

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
·						February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AN	D NAME		PROJECT NUMBER A	ND NAME	
RDT&E, N / BA-7	0305204N Tactical Unmanned Aeria	al Vehicles		A4012 Pioneer		
C. PROGRAM CHANGE SUMMARY:						
Funding:		FY 2003	FY 2004	FY 2005		
Previous President's Budget:		6.832	14.159			
Current BES/President's Budget		6.832	14.002			
Total Adjustments		0.000	-0.157	0.000		
Summary of Adjustments						
Congressional Undistributed Reduction	s		-0.157			
Subtotal		0.000	-0.157	0.000		
Schedule: Not applicable						
Technical: Not applicable						

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:					
								Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	EMENT NUM	IBER AND NAN	ΛE	PROJECT NU	MBER AND N	AME			
RDT&E, N / BA-7	0305204N Ta	actical Unmanı	ned Aerial Vehi	cles	A4012 Pionee	r				
D. OTHER PROGRAM FUNDING SUMMARY:								То	Total	
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost	
WPN: 422200 Pioneer	8.828	10.062	8.775	1.949	1.950	1.989	2.030			

E. ACQUISITION STRATEGY:

Pioneer will continue to use ECPs focusing on the most urgent user needs.

CLASSIFICATION:

				DATE:								
Exhibit R-3 Cost Analysis (pa	ge 1)									February 20	04	
APPROPRIATION/BUDGET ACTI	VITY		M ELEMENT			PROJECT N	UMBER AND	NAME				
RDT&E, N / BA-7			N Tactical Unmanne	ed Aerial Vehic		A4012 Pione						
Cost Categories	Contract	Performing	Total	E) / 00	FY 03	57.04	FY 04	5) (05	FY 05	0 11		
	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	TBD	PUI, Hunt Valley, MD	Cost	4.398	1	12.059	+	Cost	Date	Complete	16.457	•
Ancillary Hardware Development	וסטו	POI, Hullt Valley, MD		4.390	03/03	12.038	9 03/04				0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	ł
Training Development											0.000	
Licenses											0.000	
											0.000	
Tooling GFE											0.000	
											0.000	
Award Fees Subtotal Product Development			0.000	4.398		12.059		0.00	.0	0.00	1	
Development Support											0.000	
Software Development											0.000)
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	C/FFP	Anteon, Stafford, VA		1.330	08/04						1.330	1.33
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	1.330		0.000	0	0.00	0		1.330	
Remarks:												

CLASSIFICATION:

										DATE:				
Exhibit R-3 Cost Ana	alysis (pag	e 2)										February 200	04	
APPROPRIATION/BUD	GET ACTIVI	TY		PROGRAM E	LEMENT			PROJECT NU	JMBER AND	NAME		•		
RDT&E, N /	BA-7			0305204N Ta	actical Unmanne	d Aerial Vehic		A4012 Pionee						
Cost Categories		Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & E	valuation	WX	NAWCAD, Pa	x River, MD				0.370	03/04			0.000	0.370	
Operational Test & Evalu	uation												0.000	
Live Fire Test & Evaluat	tion												0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E					0.000	0.00	0	0.370		0.000)	0.000	0.370	
		Ι	T		T	Γ	T		T		T	T	T 0,000	T
Contractor Engineering Sup		14/1/	NAMOAD Dev	Di ee MD	+	4.00	04/02	0.407	03/04	+			0.000 1.551	
Government Engineering S		wx wx	NAWCAD, Pax NAWCAD, Pax			1.084	4 01/03	0.467 1.086	 				1.086	
Program Management Sup Travel		WX	NAWCAD, Pax			0.020	0 01/03	0.020					0.040	
Transportation		VVA	NAWCAD, Fax	Kivei, IVID		0.02	0 1/03	0.020	03/04				0.000	
SBIR Assessment													0.000	
Subtotal Management					0.000	1.10-	4	1.573		0.000		0.000		
Remarks:														
Total Cost					0.000	6.83	2	14.002		0.000)	0.000	20.834	
Remarks:														

R-1 SHOPPING LIST - Item No. 197

Exhibit R-3, Project Cost Analysis (Exhibit R-3, page 29 of 46)

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile																							DATE	:						
																										F	ebrua	ary 20	004		
APPROPRIATION/BUDGET RDT&E, N /	ACTIVI BA-7									ELEMI actical											IECT N 2 Pione	IUMBE	R ANI	D NAN	1E						
KDIQL, N /	DA-1							03032	20411 1	actical	Ullilla	linea	Heriai V	/enicle	:5					A4012	2 PIONE	el									
Fiscal Year		20	02	ı	20	03			20	04			20	05			20	06			20	07			20	80	ı		200	09	
	1	2	3	4	1 2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																															
Contract Award					MIAG/E	ngine	A		Δ	GCS																					
Engine Study																															
Engine Integration																															
MIAG Development GCS Development																															
GGS Development																															
Test & Evaluation Milestones					MIA	G Deve	lopme	ental Te	esting				000	Dovole	nman	tal Tes	ting														
Development Test					Engi	e Dev	elopm	ental T	esting				GCS	Devel	ринен	lai i es	ung														
Operational Test					E	ngine C	perat	ional T	esting					GCS	Opera	tional ⁻	Γesting	ı													
Production Milestones																															
Deliveries							Engine	EDM (1 e EDM GCS E	(3)	X X)	Х		PPIN																		

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&BA-7		ctical Unmanne	d Aerial Vehicl	es	A4012 Pionee			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Pioneer (MIAG/Engine) Contract Award		4Q						
MIAG Development		4Q	1Q-3Q					
Engine Study		4Q	1Q					
Engine Integration			2Q-3Q					
Pioneer GCS Contract Award			2Q					
Pioneer GCS Development			2Q-4Q	1Q				
MIAG Developmental Testing			3Q					
Engine Developmental Testing			3Q					
Engine Operational Testing			3Q					
Developmental Testing				1Q				
Operational Testing				2Q				
MIAG EDM Deliveries			3Q					
Engine EDM Deliveries			3Q					
GCS EDM Deliveries			4Q					
	<u> </u>							

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER ANI	D NAME		PROJECT NUMBI	ER AND NAME		
RDT&E, N / BA-7	Security Initiative							
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A9432 Coastline Security Initiative	A9432 Coastline Security Initiative							
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Add of \$1.75M less \$.020 Congressional undistributed reductions in RDTE,N for the Coastline Security Technology Initiative that is only for continuation of work with the Institute for Ocean and Systems Engineering to develop surface and airborne autonomous and remotely operated platform surveillance systems for deployment along US Coastlines.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

	ation		DATE: February 2004	
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND		
DT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles	A9432 Coastline Security	Initiative	
. Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		1.730	1	
RDT&E Articles Quantity				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
Accomplishments/Effort/Subtotal Cost	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03	FY 04	FY 05	

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AN	NAME	
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles		A9432 Coastline Security	Initiative	
C. PROGRAM CHANGE SUMMARY:					
Funding:		FY 2004	FY 2005		
Previous President's Budget:		0.000	0.000		
Current BES/President's Budget		1.730	0.000		
Total Adjustments		1.730	0.000		
Summary of Adjustments					
Congressional Undistributed Reduction		-0.020			
Congressional Increases		1.750			
Subtotal		1.730	0.000		
Schedule: Not applicable.					
Technical: Not applicable.					
recimioal. Not applicable.					
D. OTHER PROGRAM FUNDING SUMMARY:	Not applicable				
E. ACQUISITION STRATEGY: Not applicable					

CLASSIFICATION:

										DATE:					
Exhibit R-3 Cost Analysis (pa	ge 1)										February 20	04			
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E				PROJECT N	JMBER AND	NAME						
RDT&E, N / BA-7			0305204N T	actical Unmani	ned Aerial Vehi		A9432 Coast	line Security Ir	nitiative						
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract		
Primary Hardware Development	TBD	TBD		0031	OUSI	Date	1.730		0031	Date	Complete	1.730			
Ancillary Hardware Development	100	100					1.700	00/04				0.000			
Aircraft Integration		1										0.000			
Ship Integration		1										0.000			
Ship Suitability				†								0.000	1		
Systems Engineering												0.000			
Training Development				†								0.000			
Licenses				†								0.000			
Tooling		†		+								0.000			
GFE												0.000			
Award Fees		†		+								0.000			
Subtotal Product Development				0.000	0.000	,	1.730	2	0.00	2		1.730			
Development Support												0.000)		
Software Development												0.000)		
Integrated Logistics Support												0.000)		
Configuration Management												0.000)		
Technical Data												0.000)		
Studies & Analyses												0.000)		
GFE												0.000)		
Award Fees												0.000)		
Subtotal Support				0.000	0.000		0.000)	0.00)	0.00	0.000)		
Remarks:															
				D_1 QUOE	DDING LIST	- Itom No	107								

CLASSIFICATION:

										DATE:					
Exhibit R-3 Cost Analysis (pag	ge 2)										February 200	4			
APPROPRIATION/BUDGET ACTIV	ÎTY		PROGRAM ELEM	IENT			PROJECT N	UMBER AND	NAME		<u> </u>				
RDT&E, N / BA-7			0305204N Tactic		ed Aerial Vehi		A9432 Coast	line Security I	nitiative						
Cost Categories	Contract Method & Type	Performing Activity & Location	Tota PY Cos	S	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date		Total Cost	Target Value of Contract		
Developmental Test & Evaluation												0.000			
Operational Test & Evaluation												0.000			
Live Fire Test & Evaluation												0.000			
Test Assets												0.000			
Tooling												0.000			
GFE												0.000			
Award Fees												0.000			
Subtotal T&E				0.000	0.000)	0.00	0	0.000			0.000			
Contractor Engineering Support												0.000			
Government Engineering Support												0.000			
Program Management Support												0.000			
Travel												0.000			
Transportation												0.000			
SBIR Assessment								_				0.000			
Subtotal Management Remarks:	I	<u> </u>		0.000	0.000	<u> </u>	0.00	<u>ν</u>	0.000	<u> </u>	0.000	0.000			
Total Cost				0.000	0.000)	1.73	0	0.000			1.730			
Remarks:															

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY								
RDT&E, N / BA-7	0305204N Tactica	al Unmanned Aeria	etection Devices	es				
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A9434 Miniature Detection Devices			0.989					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional add of \$1 million, less \$.011 Congressional undistributed reductions, in RDT&E,N to continue the development of lightweight, low power nuclear, chemical, and biological sensors and isotope identification techniques utilizing Micro-Electro-Mechanical Systems (MEMS) technology and innovative detection devices to identify airborne chemical/biological threats and hazardous materials.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

	ation			DATE: February 2004	
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER A	ND NAME	PROJECT NUMBER AND N		
DT&E, N / BA-7	0305204N Tactical Unmanned Ae	rial Vehicles	A9434 Miniature Detection D	Pevices	
Accomplishments/Planned Program					
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost			0.939		
RDT&E Articles Quantity					
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost			0.050	1 1 2	
RDT&E Articles Quantity					
Assist contractor with test planning activities.					
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity					

CLASSIFICATION:

KHIBIT R-2a, RDT&E Project Justification				DATE:	
•					February 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND	NAME	
DT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles		A9434 Miniature Detectio	n Devices	
C. PROGRAM CHANGE SUMMARY:					
Funding:	F	2004	FY 2005		
Previous President's Budget:		0.000	0.000		
Current BES/President's Budget		0.989	0.000		
Total Adjustments		0.989	0.000		
Summary of Adjustments					
Congressional Undistributed Reductions	3	-0.011			
Congressional Increases		1.000			
Subtotal		0.989	0.000		
Schedule: Not applicable					
Technical: Not applicable					
D. OTHER PROGRAM FUNDING SUMMARY:	Not applicable				
E. ACQUISITION STRATEGY: Not applicable					

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (page	ge 1)										February 20	04	
APPROPRIATION/BUDGET ACTIV	ΊΤΥ		ROGRAM E				PROJECT N	JMBER AND I	NAME				
RDT&E, N / BA-7			305204N T	actical Unmanı	ned Aerial Vehi		A9434 Miniat	ure Detection	Devices				
Cost Categories	Contract Method	Performing Activity &		Total PY s	FY 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	WX	Coalescent, Orla	ndo, FL				0.939	01/04			·	0.939	
Ancillary Hardware Development												0.000	
Aircraft Integration												0.000	
Ship Integration												0.000	
Ship Suitability												0.000	
Systems Engineering												0.000	
Training Development												0.000	
Licenses												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal Product Development				0.000	0.000)	0.939	9	0.000)		0.939	
Development Support												0.000	
Software Development												0.000	
Integrated Logistics Support												0.000	
Configuration Management												0.000	
Technical Data												0.000	
Studies & Analyses												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal Support				0.000	0.000)	0.000	ס	0.000)	0.00	0.000	
Remarks:													
				D_1 QUOE	DDING LIST	- Itom No	107						

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pagaPPROPRIATION/BUDGET ACTIV	e 2)										February 200	04	
	ITY		PROGRAM E	LEMENT			PROJECT NU	IMBER AND I	NAME				
RDT&E, N / BA-7			0305204N T	actical Unmann	ed Aerial Veh	icles	A9434 Miniatu	re Detection	Devices				
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method	Activity &			FY 03	Award		Award	FY 05	Award	Cost to		Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete		of Contract
Developmental Test & Evaluation												0.000	
Operational Test & Evaluation												0.000	
Live Fire Test & Evaluation												0.000	
Test Assets												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal T&E				0.000	0.000	0	0.000		0.000)		0.000	
Contractor Engineering Support												0.000	
Government Engineering Support	WX	NAWCAD, Pax	River, MD				0.050	12/03				0.050	
Program Management Support												0.000	
Travel												0.000	
Transportation												0.000	
SBIR Assessment												0.000	
Subtotal Management				0.000	0.000	D	0.050		0.000)	0.000	0.050	
Remarks:													
Total Cost				0.000	0.000		0.989		0.000			0.989	
Remarks:													

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	1						DATE:		
							Februa	ry 2004	
APPROPRIATION/BUDGET ACTIVITY									
RDT&E, N / BA-7	0305204N Tactica	0305204N Tactical Unmanned Aerial Vehicles A9435 Precision Re-Supply Vehicle							
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
A9435 Precision Re-Supply Vehicle			4.203						
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional add of \$4.25 million, less \$.047 Congressional undistributed reductions for precision Re-Supply Vehicle only.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

	ation		DATE: February 2004	
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER ANI		
OT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles	A9435 Precision Re-Supp	ly Vehicle	
Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		2.182		
RDT&E Articles Quantity				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	FY 03	FY 04 1.596	FY 05	
RDT&E Articles Quantity Government engineering support to contract t	echnical direction and administration, review re-supply UAV	1.596		and
RDT&E Articles Quantity	technical direction and administration, review re-supply UAV in between UAV and the control station.	1.596		and
RDT&E Articles Quantity Government engineering support to contract t	echnical direction and administration, review re-supply UAV	1.596 technology and coordinate with	contractor for producibility, conduct testing	and

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

fication				DATE:	
					February 2004
PROGRAM ELEMEI	NT NUMBER AND NAME		PROJECT NUMBER A	ND NAME	
0305204N Tactical	Unmanned Aerial Vehicles		A9435 Precision Re-Su	ipply Vehicle	
:					
	FY 2003	FY 2004	FY 2005		
	0.000	0.000	0.000		
	0.000	4.203	0.000		
	0.000	4.203	0.000		
ibuted Reductions		-0.047			
	0.000	4.203	0.000		
MMARY: Not applicable					
Not applicable					
ivot applicable					
i :	PROGRAM ELEMEI 0305204N Tactical	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles FY 2003 0.000 0.000 0.000 ibuted Reductions ses 0.000	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROGRAM ELEMENT NUMBER AND NAME Q305204N Tactical Unmanned Aerial Vehicles A9435 Precision Re-Survey	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles A9435 Precision Re-Supply Vehicle

CLASSIFICATION:

PROGRAM ELEMENT 0305204N Tactical Ur ng Total R PY's Cost	FY 03 Cost	Vehicles FY 03 Award Date	PROJECT NU A9435 Precis FY 04 Cost 2.182	on Re-Supply FY 04 Award Date		FY 05 Award Date	Cost to Complete	Total Cost 2.182 0.000 0	of Contract 2.182
0305204N Tactical Uring Total & PY's Cost	FY 03 Cost	FY 03 Award	A9435 Precis FY 04 Cost	on Re-Supply FY 04 Award Date	Vehicle FY 05	Award		Cost 2.182 0.000 0	of Contract 2.182
ng Total & PY's Cost	FY 03 Cost	FY 03 Award	FY 04 Cost	FY 04 Award Date	FY 05	Award		Cost 2.182 0.000 0	of Contract 2.182
R PY's Cost	Cost	Award	Cost	Award Date		Award		Cost 2.182 0.000 0	2.182
		Date			Cost	Date	Complete	2.182 0.000 0.000 0.000 0.000 0.000	2.182
	0.000		2.102					0.000 0.000 0.000 0.000 0.000	
	0.000							0.000 0.000 0.000 0.000	
	0.000							0.000 0.000 0.000	
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CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	je 2)										February 200)4	
APPROPRIATION/BUDGET ACTIV	İTY		PROGRAM E	LEMENT			PROJECT NU	MBER AND	NAME		-		
RDT&E, N / BA-7			0305204N T	actical Unmann	ed Aerial Vel		A9435 Precisi		/ Vehicle				
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												0.000	
Operational Test & Evaluation												0.000	
Live Fire Test & Evaluation												0.000	
Test Assets												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal T&E				0.000	0.00	00	0.000		0.0	00		0.000	
Contractor Engineering Support												0.000	
Government Engineering Support	WX	NAWCAD, Pax	River, MD				1.596	01/04				1.596	
Program Management Support	WX	NAWCAD, Pax	River, MD				0.425	03/04				0.425	
Travel												0.000	
Transportation												0.000	
SBIR Assessment												0.000	
Subtotal Management				0.000	0.00	00	2.021		0.0	00	0.000	2.021	
Remarks:													
Total Cost				0.000	0.00	00	4.203		0.0	00		4.203	
Remarks:													

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
_						Februai	ry 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	CLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAV	ial Vehicles						
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		100.212	113.438	141.796	146.127	81.324	77.507
A3061 Global Hawk Maritime Demo Sys*	*188.351	75.445	0.000	0.000	0.000	0.000	0.000
A4020 BAMS UAV		24.767	113.438	141.796	146.127	81.324	77.507

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides for the development of High Altitude Endurance (HAE) Unmanned Aerial Vehicle (UAV) Systems for DoD that provide warfighters with the dedicated capability for Broad Area Maritime Surveillance as a standoff persistent, Intelligence, Surveillance and Reconaissance (ISR) asset. This program includes:
- 1) Global Hawk Maritime Demonstration (GHMD) System. The Secretary of the Navy directed procurement of two USAF Global Hawk Aircraft to include the air vehicle and associated support equipment, integration of maritime payloads, SIGINT and communications for demonstration and experimentation purposes. The GHMD System will serve as fleet asset for the development of UAV Concept of Operations (CONOPS), tactics, techniques and procedures and cultural building for Navy High Altitude Endurance (HAE) UAVs. This project was initiated in FY 2003 in PE 0305204N, Tactical Unmanned Aerial Vehicles.
- 2) Broad Area Maritime Surveillance (BAMS) UAV. The BAMS UAV is a formal acquisition program for the development and fielding of an HAE UAV for the maritime/littoral environment, with a FY 2010 IOC. The BAMS UAV will provide Carrier Strike Group (CSG) and Expeditionary Strike Group (ESG) Commanders with a persistent intelligence, surveillance and reconnaissance capability. BAMS UAV will consist of air vehicles, ground systems, sensors, and communications capabilities optimized for the maritime/littoral environment, and will be integrated with other assets to communications relay and ISR missions. The BAMS UAV program is structured to meet the need for persistent ISR as other ISR platforms, specifically as the P-3 and EP-3, begin to reach life expectancy. Although BAMS UAV will not be a one-for-one replacement for any manned platforms, BAMS UAV provides a transformational capability for the Navy.

As of December 2003, the BAMS UAV ORD is with the JROC.

*In FY03, Global Hawk Maritime Demonstration System is funded in PE 0305204N, Tactical Unmanned Aerial Vehicles.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY								
RDT&E, N / BA-7	0305205N Endura	nce Unmanned Aei	nstration System					
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A3061 Global Hawk Maritime Demo System		*188.351	75.445	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty		2		·				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

*In FY03, these efforts were executed under PE 0305204N Tactical Unmanned Aerial Vehicles.

The Navy has identified the need for a long-range and long-dwell UAV capable of providing maritime/land ISR, standoff strike support, and SIGINT collection. The Global Hawk (GH) Maritime Demonstration (GHMD) system began in FY03. The purpose of the GHMD system is to provide a High Attitude Endurance UAV system for CONOPs, tactics, techniques, and procedures (TTP) in support of maritime ISR mission areas.

The GH High Altitude Endurance (HAE) UAV consists of the GH Aircraft and its Common Ground Segment (CGS). The GH CGS is composed of a Launch and Recovery Element (LRE), a Mission Control Element (MCE) and associated logistics support. The LRE prepares, launches, and recovers the aircraft, while the MCE plans and executes the mission. The MCE dynamically retasks the aircraft including sensors and processes, stores and/or disseminates the data as required. The GH system provides persistent, all-weather, and wide-area coverage in support of military operations.

The Navy's GHMD system is based around the GH aircraft and support equipment procured using the USAF Lot-2 LRIP contract. Modifications for maritime mission sensors will be accomplished under the USAF GHMD EMD contract. The first of the GHMD air vehicles will deliver in 2QFY05 and is scheduled to be used in Fleet Battle Experiments. The second GHMD air vehicle will deliver to the Navy in 3QFY05.

This program was initiated in FY 2003 in Program Element 0305204N, Tactical Unmanned Aerial Vehicle. GHMD capabilities will provide improved "Tandem Thrust" configuration, a modified USAF version flown by the Australians in FY01. FY04 will complete the development tasks.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N / BA-7	0305205N Endurance Unmanned Aerial Vehicles	A3061 Global Hawk Maritim	ne Demonstration System

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	* 140.035	60.000	0.000
RDT&E Articles Quantity	2		

FY 2004: Continue acquisition of air vehicle, LRE, MCE, payload test assets and associated support equipment (fully funded in FY 2003 in PE 0305204N); complete integration of maritime modes in ISS payloads, and communication capabilities; initiate and complete TCS/ MCE platform integration. Conduct integration and testing of payloads, and communication systems. FY04 activities reduces the scope of the GHMD to integrated sensor suite payload modification, LR100 integration, and communications modes.

* FY 03, Global Hawk Maritime Demonstration System funed in PE 0305204N, Tactical Unmanned Aerial Vehicles.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	* 9.375	11.552	0.000
RDT&E Articles Quantity			

Continued government and contractor engineering including, systems engineering, system certification, logistics analysis, planning for test & evaluation of maritime payloads, test facility infrastructure preparation, assessment of the contractor's compliance with security requirements. The FY 2004 program also supports test agency planning for the demonstration efforts, satellite coordination efforts and the shipboard integration efforts.

* FY 03, Global Hawk Maritime Demonstration System funed in PE 0305204N, Tactical Unmanned Aerial Vehicles.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	* 4.941	3.893	0.000
RDT&E Articles Quantity			

Contractor Support Services, Program Management Support and Travel.

* FY 03, Global Hawk Maritime Demonstration System funed in PE 0305204N, Tactical Unmanned Aerial Vehicles.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	İAME	
RDT&E, N / B.A. 7	0305204N Tactical Unmanned Aerial Vehicles	A3061 Global Hawk Maritim	ne Demonstration System	

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	* 20.000		
RDT&E Articles Quantity			

Initiated platform integration of the Tactical Control System (TCS) and the GHMD System, including air vehicle/system integration and validation efforts, government and contractor support.

* FY 03, Global Hawk Maritime Demonstration System funed in PE 0305204N, Tactical Unmanned Aerial Vehicles.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	* 7.000		
RDT&E Articles Quantity			

Developed manufacturing and producibility enhancements for the Global Hawk program. Efforts include procurement of tooling and special test equipment, development and integration of an open system architecture, and manufacturing process improvements.

* FY 03, Global Hawk Maritime Demonstration System funed in PE 0305204N, Tactical Unmanned Aerial Vehicles.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	* 7.000		
RDT&E Articles Quantity			

Established requirements for utilizing existing infrastructure at the Tactical Support Centers (TSC) to support BAMS UAV. Efforts incuded, manpower task loading analysis, evaluation of current network infrastructure and identification of upgrades required to support BAMS UAV, and identification of any network connectivity enhancements required to move UAV data from the TSCs to other exploitation facilities.

* FY 03, Global Hawk Maritime Demonstration System funed in PE 0305204N, Tactical Unmanned Aerial Vehicles.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND	NAME	
RDT&E, N / BA-7	0305205N Endurance Unmanned Aerial Vehicles		A3061 Global Hawk Mari	time Demonstratio	n System
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	*FY 2003	FY 2004	FY 2005		
Previous President's Budget:	0.000	76.358	57.316		
Current BES/President's Budget:	0.000	75.445	0.000		
Total Adjustments	0.000	-0.913	-57.316		
Summary of Adjustments					
Congressional Undistributed Reductions		-0.913			
Reprioritization			-57.316		
Subtotal	0.000	-0.913			
(U) Schedule:					
(U) Technical: Stops integration, testing, and exp	perimentation with new maritime payloads.				
	R-1 SHOPPING LIST - Ita	m Na 10	0		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E	Project Justification							DATE:			
,,,,,,									Februa	ry 2004	
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM EL	EMENT NUM	BER AND NAM	1E	PROJECT NU	MBER AND N	AME			
RDT&E, N /	BA-7	0305205N End	durance Unma	nned Aerial Ve	hicles	A3061 Global	Hawk Maritime	Demonstratio	n System		
D. OTHER PROGRA	M FUNDING SUMMARY:								_	T	
Line Item No. & Na	<u>me</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>	
PE 0305204N		188.351									
1											
E. ACQUISITION STRA	ATEGY:										
	program is an experimentation System and EMD Cost-Plus Av							ce Incentive (F	FPI) contract for p	urchase of the	

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pa	ge 1)										February 20	004	
APPROPRIATION/BUDGET ACTI	VITY		PROGRAM E	LEMENT			PROJECT NU	JMBER AND I	NAME				
RDT&E, N / BA-7			0305205N En	ndurance Unma	nned Aerial Ve		A3061 Global		ne Demonstrati				
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method & Type	Activity & Location		PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	MIPR	WPAFB/NGI	<u> </u>	Cost	Cost	Date	60.000	1	Cost	Date	Complete	60.00	
Ancillary Hardware Development	IVIIFIX	WPAFB/NGI	3				60.000	12/03				0.00	
Aircraft Integration												0.00	
Ship Integration												0.00	
Ship Suitability												0.00	
Systems Engineering												0.00	
Training Development												0.00	
Licenses												0.00	
Tooling												0.00	
GFE												0.00	
Award Fees												0.00	
Subtotal Product Development				0.000	0.000	,	60.000	,	0.00	10	0.00		
Development Support												0.00	0
Software Development												0.00	0
Integrated Logistics Support	WX	Various					2.500	12/03				2.50	0
Configuration Management												0.00	0
Technical Data												0.00	0
Studies & Analyses	MIPR	MITRE					0.505	11/03				0.50	5
GFE												0.00	0
Award Fees												0.00	0
Subtotal Support				0.000	0.000)	3.005	5	0.00	00	0.00	3.00	5
Remarks:													

CLASSIFICATION:

									DATE:				1
Exhibit R-3 Cost Analysis (pag	e 2)								271121		February 200)4	
APPROPRIATION/BUDGET ACTIV			PROGRAM EI	LEMENT			PROJECT NU	MBER AND N	IAME			· ·	
RDT&E, N / BA-7			0305205N End	durance Unmar	nned Aerial Vel	nicles	A3061 Global	Hawk Maritime	e Demonstration	n System			
Cost Categories	Contract Method & Type	Performing Activity & Location			FY 03 Cost	FY 03 Award Date	FY 04	FY 04 Award Date		FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	Various					0.950	11/03				0.950	
Operational Test & Evaluation												0.000	
Live Fire Test & Evaluation												0.000	
Test Assets												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal T&E				0.000	0.000		0.950		0.000		0.000	0.950	
	1	1				T	ı		1		T		,
Contractor Engineering Support	RX	Various					0.535	12/03				0.535	
Government Engineering Support	WX	Various					7.062	11/03				7.062	
Program Management Support	WX	NAWC-AD, Pa	x River, MD				3.818	11/03				3.818	
Travel							0.075	11/03				0.075	
Transportation												0.000	
SBIR Assessment												0.000	
Subtotal Management Remarks:				0.000	0.000		11.490		0.000		0.000	11.490	
Total Cost				0.000	0.000		75.445		0.000		0.000	75.445	
Remarks:													

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R4, Schedule	Profile																								DATE	:						
APPROPRIATION/BUDGET	ACTIVIT	ΓΥ							PROG	RAM	ELEM	ENT N	NUMBE	R AND	NAME	<u> </u>					PROJ	ECT N	UMBE	R ANI	D NAM	IE	F	ebrua	ary 20	04		
RDT&E, N /	BA-7	•			1				03052	05N E	Endura	nce L	Jnmanr	ned Aer	rial Vel	nicles					A3061	Globa	al Hawl	k Mar	ritime [Demon	stratior	Syste	m			
Fiscal Year						20	03			20	04			20	05			200	06			20	07			20	80			200)9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones						Award		:	SRR		Desig Revie	n w	TRR																			
System HW Procurement												l																				
Maritime Sensor Development																																
Maritime Sensor Integration, N-1																																
Maritime Sensor Integration, N-2												[<u> </u>																			
Shipboard Integration																																
Deliveries																																
Air Vehicle 1 Air Vehicle 2																																
LRE																																
MCE													14	\coprod																		
Test & Demonstration Milestones															FBE	-M																
AV 1													Acc	ep. Tst		ght Te	st															
AV 2														*[

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	EMENT			PROJECT NU	MBER AND NA	AME	
RDT&BA-7	0305205N End	durance Unmai	nned Aerial Vel	nicles	A3061 Global	Hawk Maritime	Demonstration	n System
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Contract Award		2Q						
System Requirements Review			1Q					
Design Review			3Q					
Test Readiness Review (TRR)				1Q				
System Hardware Development		2Q-4Q	1Q-4Q	1Q-2Q				
Maritime Sensor Development		2Q-4Q	1Q-3Q					
Maritime Sensor Integration, N-1			3Q-4Q	1Q				
Maritime Sensor Integration, N-2			4Q	1Q-2Q				
Shipboard Integration			3Q-4Q	1Q-2Q				
Air Vehicle 1 Delivery				1Q				
Air Vehicle 2 Delivery				2Q				
LRE Delivery				1Q				
MCE Delivery				1Q				
Air Vehicle 1 Acceptance Flight Testing				1Q-2Q				
Air Vehicle 2 Acceptance Flight Testing				3Q				
	+							

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	MENT NUMBER AN	ND NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0305205N Endura	ance Unmanned A	erial Vehicles		A4020 BAMS UAV			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A4020 BAMS UAV			24.767	113.438	141.796	146.127	81.324	77.50
RDT&E Articles Qty				1				ı

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Broad Area Maritime Surveillance (BAMS) UAV has been designated a pre-Major Defense Acquisition Program (MDAP) for the development and fielding of an HAE UAV for the maritime/littoral environment, with an FY2010 IOC. The BAMS UAV will provide Carrier Strike Group (CSG), Expeditionary Strike Group (ESG) and Joint Forces Maritime Component Commanders (JFMCC) with a persistent Intelligence, Surveillance and Reconnaissance (ISR) capability. BAMS UAV will consist of air vehicles, payloads and ground/surface systems. The BAMS UAV program is structured to meet the need for persistent ISR and to complement other ISR platforms.

BAMS UAV leverages two mission needs statement (MNS); 1) BAMS and Littoral Armed ISR MNS, and 2) Long Endurance, Reconnaissance, Surveillance and Target Acquisition (RSTA) Capability MNS. The BAMS UAV ORD is scheduled for JROC approval in January 2004.

The BAMS UAV AoA investigated air vehicle and payload options in terms of cost, performance and risk. The BAMS UAV AoA was completed June 2003 and concluded, from the three main alternatives, that no one single platform and payload dominated in every category. An acquisition plan is in the final stages of review with ASN (RDA) for development of the BAMS UAV system.

The BAMS UAV will be a spiral based acquisition, entering the System Development and Demonstration (SDD) phase with Milestone B decision at the end of 1QFY05.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification

			Februa	ry 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	AME	_
DT&E, N / BA-7	0305205N Endurance Unmanned Aerial Vehicles	A4020 BAMS UAV		
I) B. Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		3.000	90.000	
RDT&E Articles Quantity				
Proposal (RFP) and Source Selection activities	on of functional and detailed system specifications. Develo	S		•

		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	_		17.192	18.863
RDT&E Articles Quantity				

FY 2004: Complete Government efforts on pre-Milestone B and Request for Proposal activities.

FY 2005: Initiates government activities including System Engineering, logistics support, contractor engineering support, and flight clearances. Conduct system functional and System Requirements and Analysis Reviews. Begin JITC, JTA and security certification activities as well as begin satellite coordination. Establish test plan working groups for developmental and operational testing.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		4.575	4.575
RDT&E Articles Quantity			

Contractor Support Services, Program Management Support, and Travel.

R-1 SHOPPING LIST - Item No. 198

DATE:

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND	NAME	
RDT&E, N / BA-7	0305205N Endurance Unmanned Aerial Veh	icles	A4020 BAMS UAV		
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget	0.000	25.090	224.427		
Current BES/President's Budget	0.000	24.767			
Total Adjustments	0.000	-0.323	-110.989		
Commence of Adinates and					
Summary of Adjustments Congressional Undistributed	Reductions	-0.323			
Economic Assumptions	reductions	-0.020	-0.315		
Reprioritization			-110.674		
Subtotal	0.000	-0.323			
(U) Schedule:					
(O) Scriedule.					
(U) Technical: Not applicable					
	R-1 SHOPPING LIST	Itam No. 1	20		

CLASSIFICATION:

ROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME A020 BAMS UAV (U) D. OTHER PROGRAM FUNDING SUMMARY: Line Item No. & Name APN 044200 BAMS UAV (U) E. ACQUISITION STRATEGY: The BAMS UAV program will develop and rapidly field an ISR capability with a FY10 Initial Operational Capability (IOC). Commercial off-the-shelf (COTS) technology will be utilized to the greatest extent possible for all segments of the BAMS UAV system (i.e., air vehicle, ground segment and payloads). The BAMS UAV will be milestone based acquisition, entering the System Development and Demonstration (SDD) phase with a Milestone B decision in 1QFY05. The BAMS UAV AoA was	IBIT R-2a, RDT&E	Project Justification							DATE:	F-1
&E, N / BA-7 0305205N Endurance Unmanned Aerial Vehicles A4020 BAMS UAV (U) D. OTHER PROGRAM FUNDING SUMMARY: FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 APN 044200 BAMS UAV FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 (U) E. ACQUISITION STRATEGY: The BAMS UAV program will develop and rapidly field an ISR capability with a FY10 Initial Operational Capability (IOC). Commercial off-the-shelf (COTS) technology will be utilized to the greatest extent possible for all segments of the BAMS UAV system (i.e., air vehicle, ground segment and payloads). The BAMS UAV will be milestone based acquisition, entering the System Development and Demonstration (SDD) phase with a Milestone B decision in 1QFY05. The BAMS UAV AoA was	OPRIATION/BUDGE	T ACTIVITY	PROGRAM FI	EMENT NUM	BER AND NAI	ИF	PROJECT NU	IMBER AND N	AMF	February 2004
Line Item No. & Name APN 044200 BAMS UAV FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 161.823 FY 2008 FY 2009 161.823 FY 2009 269.901 (U) E. ACQUISITION STRATEGY: The BAMS UAV program will develop and rapidly field an ISR capability with a FY10 Initial Operational Capability (IOC). Commercial off-the-shelf (COTS) technology will be utilized to the greatest extent possible for all segments of the BAMS UAV system (i.e., air vehicle, ground segment and payloads). The BAMS UAV will be milestone based acquisition, entering the System Development and Demonstration (SDD) phase with a Milestone B decision in 1QFY05. The BAMS UAV AoA was									, tivi2	
APN 044200 BAMS UAV 161.823 272.278 269.901 (U) E. ACQUISITION STRATEGY: The BAMS UAV program will develop and rapidly field an ISR capability with a FY10 Initial Operational Capability (IOC). Commercial off-the-shelf (COTS) technology will be utilized to the greatest extent possible for all segments of the BAMS UAV system (i.e., air vehicle, ground segment and payloads). The BAMS UAV will be milestone based acquisition, entering the System Development and Demonstration (SDD) phase with a Milestone B decision in 1QFY05. The BAMS UAV AoA was	(U) D. OTHER PRO	GRAM FUNDING SUMMARY:								
The BAMS UAV program will develop and rapidly field an ISR capability with a FY10 Initial Operational Capability (IOC). Commercial off-the-shelf (COTS) technology will be utilized to the greatest extent possible for all segments of the BAMS UAV system (i.e., air vehicle, ground segment and payloads). The BAMS UAV will be milestone based acquisition, entering the System Development and Demonstration (SDD) phase with a Milestone B decision in 1QFY05. The BAMS UAV AoA was			FY 2003	FY 2004	FY 2005	FY 2006				
Commercial off-the-shelf (COTS) technology will be utilized to the greatest extent possible for all segments of the BAMS UAV system (i.e., air vehicle, ground segment and payloads). The BAMS UAV will be milestone based acquisition, entering the System Development and Demonstration (SDD) phase with a Milestone B decision in 1QFY05. The BAMS UAV AoA was	(U) E. ACQUISITION	STRATEGY:								
								(i.e., air vehicle	e, ground segment	and payloads).
completed in June 2003. The BAMS UAV AoA examined air vehicle and payload options. Acquisition strategy decision is pending.								one B decision	in 1QFY05. The B	AMS UAV AoA was

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pa	ge 1)										February 200	04	
APPROPRIATION/BUDGET ACTIV	VITY		PROGRAM E	LEMENT			PROJECT NU	JMBER AND	NAME				
RDT&E, N / BA-7			0305205N En	durance Unma	nned Aerial Ve		A4020 BAMS						
Cost Categories	Contract Method	Performing Activity &		Total PY s	FY 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	C/CP	TBD					3.000	05/04	90.000	11/04		93.000	
Ancillary Hardware Development												0.000	
Aircraft Integration												0.000)
Ship Integration												0.000	
Ship Suitability												0.000)
Systems Engineering												0.000)
Training Development												0.000	
Licenses												0.000	
Tooling												0.000	
GFE												0.000)
Award Fees												0.000)
Subtotal Product Development				0.000	0.000		3.000)	90.000		0.000	93.000)
Development Support												0.000)
Software Development												0.000	
Integrated Logistics Support	WX	Various					4.700	11/03	4.700	11/04	Continuing	Continuing	1
Configuration Management												0.000)
Technical Data												0.000)
Studies & Analyses												0.000)
GFE												0.000	
Award Fees												0.000	
Subtotal Support				0.000	0.000		4.700)	4.700			9.400)
Remarks:													
				R-1 SHOP	PING LIST	- Item No	198						

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)										February 200)4	
APPROPRIATION/BUDGET ACTIVI	ITY		PROGRAM E	LEMENT			PROJECT NU	JMBER AND I	NAME		•		
RDT&E, N / BA-7			0305205N En	durance Unmar	nned Aerial Ve	ehicles	A4020 BAMS						
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method	Activity &			FY 03	Award	FY 04	Award		Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date		Date	Complete	Cost	of Contract
Developmental Test & Evaluation	WX	TBD							1.900		Continuing	Continuing	
Operational Test & Evaluation	WX	TBD							0.300	11/04	Continuing	Continuing	
Live Fire Test & Evaluation												0.000	
Test Assets												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal T&E				0.000	0.000	o	0.000		2.200		0.000	2.200	
Contractor Engineering Support	RX	Various					0.535	11/03	0.535	11/04	Continuing	Continuing	
Government Engineering Support	WX	NAWC-AD, Pa	x River, MD				11.957	11/03	11.428	11/04	Continuing	Continuing	
Program Management Support	WR/RX	NAWC-AD, Pa	x River, MD				4.500	11/03	4.500	11/04	Continuing	Continuing	
Travel	WX	NAWC-AD, Pa	x River, MD				0.075	11/03	0.075	11/04	Continuing	Continuing	
Transportation												0.000	
SBIR Assessment												0.000	
Subtotal Management				0.000	0.00)	17.067	,	16.538			33.605	
Remarks:													
Total Cost				0.000	0.00	0	24.767	,	113.438		0.000	138.205	
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule													_												DATE		F	ebrua	ary 20	04		
APPROPRIATION/BUDGET													UMBE									ECT N			NAM	E						
RDT&E, N /	BA-7	<u> </u>			1				03052	05N E	ndurar	nce Ur	nmanne	d Aeria	al Vehi	cles	1				A4020	BAMS	S UAV									
Fiscal Year						20	03			200	04			200	05			200	06			20	07			20	08			20	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition						F	re-Mile	estone	Acitivit	ies			MS B				PDR			CDR A		ı	MS C									†
Milestones													$ egthinspace = \int \!\!\! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$				$ \triangle $						Δ									
													PAC																			
												C	tcAwar	·d																		
Development Phase																															Ļ	
																				В	BAMS (JAV D	evelop	ment								
																																$oldsymbol{ol}}}}}}}}}}}}}}}}}}$
Deliveries																								1					LRIP '			LRIP
Test & Evaluation Milestones																																
																			ı	SYS In	nteg. D	Т				D	T/Fligh	t Test			Ш	
Development Test																		\square		L												
Operational Test Combined DT/OT																					AC			Г			Со	mbine	d DT/O)T		
Production Milestones																						\wedge								7		
LRIP I FY 07 (APN)																					L	RIP 1	Start			\wedge						<u> </u>
LRIPII FY 08 (APN)																									L	.RIP 2	Start		LRIP 3	3 Start	I	
LRIP III FY 09 (APN)																																$\overline{-}$

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	February 20	n4
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	FMFNT			PROJECT NU			
RDT&BA-7			nned Aerial Vel	nicles	A4020 BAMS			
		T	Τ				EV 0000	EV 0000
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Pre Milestone Activities		1Q-4Q	1Q-4Q	1Q				
Milestone B				1Q				
Contract Award				1Q				
Post Award Conference (PAC)				1Q				
Operational Assessment					2Q-4Q	1Q-3Q		
Milestone C						3Q		
IOC								4Q
PDR					1Q			
CDR					4Q			
BAMS UAV Development				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q
Deliveries (EMDs)						4Q		
Deliveries (LRIP1)								1Q
Deliveries (LRIP2)								4Q
System Integration/DT					1Q-4Q	1Q-4Q		
DT/Flight Test							1Q-4Q	1Q-3Q
Combined DT/OT						3Q-4Q	1Q-4Q	1Q-4Q
LRIP 1						2Q-4Q	1Q-4Q	1Q-2Q
LRIP 2							2Q-4Q	1Q-4Q
LRIP 3								2Q-4Q
OPEVAL (FY 10)								
FRP (FY 10)								
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CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:						
						Februai	y 2004					
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	CLATURE							
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	BA-7	0305206N Airborne Reconnaissance Systems										
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009					
Total PE Cost	16.171	26.989	10.191	29.125	18.745	19.124	19.504					
H2694 Advanced Digital Sensors	2.521	12.206	10.191	29.125	18.745	19.124	19.504					
R2476 Framing Reconnaissance Camera	2.817											
R2807 Hyperspectral Upgrade to Airborne Cameras	3.416	3.955										
R9114 Electro-Optical Framing Reconnaissance Camera	4.977	3.461										
R9115 NRL Applied Optics Reconnaissance Technology	2.440											
R9437 Deploy Unmanned Sys for Targeting, Exploitation, Reconn (DUST	ER)	5.142										
R9438 Multi-spectral glass windows for Airborne Reconn Poded Sensors		2.225										

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Provides funds for the development of sensor systems to improve present airborne reconnaissance capabilities. The developments are driven by evolving collection requirements and modern technology advances. The developments allow for the necessary changes required to meet an integrated, objective airborne reconnaissance architecture as defined in the Integrated Airborne Reconnaissance Strategy (IARS) and amplified in the Airborne Reconnaissance Information Technical Architecture (ARITA). The Advanced Sensors Development Program implements successful proof-of-concept efforts accomplished in the Advanced Technology Program, other Service/Agency developments, and Congressionally-funded initiatives leading to producible sensor systems for airborne platforms. Upon successful sensor prototype demonstration, technology sensor developments are turned over to the Services for procurement and platform integration. This effort focuses on developments, which support sensor system interoperability and standardization of multi-Service and multi-platform applications. Starting in FY05, the advanced sensor developments will provide the technology transition modules for operational use necessary to support the EP-3E JMOD Baseline program and provide the mechanism required for timely dissemination of intelligence information to operational forces. In addition, funds provide for the development/integration and operational assessment of components for the EP-3E and Special Projects (SP) aircraft and follow-on candidate aircraft.

The two primary objectives for Advanced Technology funding is to evaluate the utility and maturity of technology for airborne reconnaissance applications and to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations (ACTDs), by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the Integrated Airborne Reconnaissance Strategy (IARS). These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan (ARTPP), published in November 1994. Transition of sensors to AF TARS, and Navy TARPS-CD and SHARP programs have been successful.

R-1 SHOPPING LIST - Item No.

199

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 63)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	0305206N Airborne Reconna	aissance Systems
There are two primary objectives for the Advanced Technology funding: (1) to evaluate the utility and maturity of te of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technolog developmental and operational tests. These technologies help satisfy the requirements of the objective architecture. These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan (ARTF Navy TARPS-CD and SHARP programs has been successful. Congress added funds in FY 2001 to (1) develop and develop and upgrade the Sensor to and 18 inch lens and integrate an existing dual banned sensor into the TARP produce.	echnology for airborne reconnai ogy Demonstrations (ACTDs), be e set forth in the Integrated Airl PP), published in November 19 nd Advanced Focal Plane Array	ssance applications and (2) to reduce the risk by integrating and exercising them in borne Reconnaissance Strategy (IARS). 194. Transition of sensors to AF TARS, and or of smaller electro-optical framing size, (2)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificati	on						DATE:	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEME	NT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME	Februa	ry 2004
RDT&E, N / BA-7	0305206N Airborne				H2694 Advanced			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		2.521	12.206	10.191	29.125	18.745	19.124	19.504

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Provides funds for the development of sensor systems to improve present airborne reconnaissance capabilities. The developments are driven by evolving collection requirements and modern technology advances. The developments allow for the necessary changes required to meet an integrated, objective airborne reconnaissance architecture as defined in the Integrated Airborne Reconnaissance Strategy (IARS) and amplified in the Airborne Reconnaissance Information Technical Architecture (ARITA). The advanced sensor program includes technical analyses, systems engineering assessments, planning, and development for advanced airborne sensor systems. This effort focuses on developments which support sensor system interoperability and standardization of multi-Service and multi-platform applications. The EP-3E and Special Projects will undergo a series of incremental modifications via an evolutionary acquisition process beginning in FY 2001. The advanced sensor developments described herein will provide the technology transition modules necessary for the overall migration of the airborne fleet to JASA, (i.e., sensors, ground systems, data links, and platforms), and provide the mechanism required for timely dissemination of intelligence information to operational forces.

FY05 begins the development of JMOD Baseline Configuration into all EP-3 aircraft. These efforts carry forward the developments from prior years and continues the development efforts to ensure that EP-3 aircraft maintain their interoperability and relevance to emerging threats and changing technology. This funding provides for the development of the JMOD Baseline capabilities and Spirals. The JMOD Baseline program builds on a common baseline with two spirals. Spiral 1 (ForceNet) includes high band and special collection subsystems (Story Finder and MPEG) and data dissemination (Story Teller). Spiral 2 (Precision Targeting) includes a precision targeting capabilities, obsolescence and Story Maker. The Special Projects development efforts are on-going as planned.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	ation			DATE:	
				Februa	ry 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMB	ER AND NAME	PROJECT NUMBER AND N	AME	
DT&E, N / BA-7	0305206N Airborne Reconnai	ssance Systems	H2694 Advanced Digital S	ensors	
B. Accomplishments/Planned Program					
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		0.386	0.700	0.000	
RDT&E Articles Quantity					
Collection upgrades and demonstration.					
Collection upgrades and demonstration.					
Collection upgrades and demonstration.		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		FY 03 0.733	FY 04 2.684	FY 05 0.000	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	ace for Story Teller upgrades; including	0.733	2.684	0.000	ment and Integration.
Accomplishments/Effort/Subtotal Cost		0.733 CDL. Story Teller and	2.684 Common Data Link (CDL) integra	0.000	ment and Integration.
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Development of hardware and software interface.		0.733 CDL. Story Teller and	2.684 Common Data Link (CDL) integra	0.000	ment and Integration.
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Development of hardware and software interface.		0.733 CDL. Story Teller and nna upgrade into aircra	2.684 Common Data Link (CDL) integra ft.	0.000 tion into SIL. Imagery develop	ment and Integration.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

•	ion			DATE:	ruary 2004
ROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUME	RER AND NAME	PROJECT NUMBER AND N		uary 2004
T&E, N / BA-7	0305206N Airborne Reconna		H2694 Advanced Digital S		
TOL, N / BA-1	0303200N Allborne Recollina	dissance Systems	1 12094 Advanced Digital 3	6115015	
B. Accomplishments/Planned Program					
		FY 03	FY 04	FY 05	٦
Accomplishments/Effort/Subtotal Cost		0.000	0.317	0.000	
RDT&E Articles Quantity					
Story Book DT/OT (including OPAL/ONYX). S	tory Book upgrade (including CPC).	Story Book signals an	alysis and upgrade receivers. De	velopment of Story Book An	nalysis upgrades
		F)/ 00		5 /4-	7
Accomplishments/Effort/Subtotal Cost		FY 03 0.450	FY 04	FY 05	4
RDT&E Articles Quantity		0.450	0.813	0.000	-
Story Maker development, integration and dem	ionstration. Story Maker Into System	s integration Lab (SIL)	and perform flight test.		
		FY 03	FY 04	FY 05]
Accomplishments/Effort/Subtotal Cost		FY 03 0.000	FY 04 4.943	FY 05 3.490	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity					
RDT&E Articles Quantity JMOD Imagery engineering investigations. Mis	ssion system weight development. E e update.	0.000	4.943	3.490	ements Review (SRR).
RDT&E Articles Quantity JMOD Imagery engineering investigations. Mis Special Projects Communications/Infrastructure	ssion system weight development. Ce update.	0.000 Develop and demonstra	4.943	3.490	ements Review (SRR).
RDT&E Articles Quantity JMOD Imagery engineering investigations. Mis Special Projects Communications/Infrastructure Accomplishments/Effort/Subtotal Cost	ssion system weight development. Ce update.	0.000 Develop and demonstra	4.943 te Special Projects (SP) DF upgra	3.490 de for SP Systems Require	ements Review (SRR).
RDT&E Articles Quantity JMOD Imagery engineering investigations. Mis Special Projects Communications/Infrastructure	ssion system weight development. Ce update.	0.000 Develop and demonstra	4.943 te Special Projects (SP) DF upgra	3.490 de for SP Systems Require FY 05	ements Review (SRR).
RDT&E Articles Quantity JMOD Imagery engineering investigations. Mis Special Projects Communications/Infrastructure Accomplishments/Effort/Subtotal Cost	e update.	0.000 Develop and demonstra FY 03 0.490	4.943 te Special Projects (SP) DF upgra	3.490 de for SP Systems Require FY 05 0.000	ments Review (SRR).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	tion		DATE:	
DDODDIATION/DUDOET ACTIVITY	DDOOD AM ELEMENT NUMBER AND NAME	DDO IFOT NILIMBED AND N		ry 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N		
DT&E, N / BA-7	0305206N Airborne Reconnaissance Systems	H2694 Advanced Digital S	Sensors	
B. Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	4.043	
RDT&E Articles Quantity				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	2.658	
RDT&E Articles Quantity	ing capabilities, obsolescence and Story Maker.			
RDT&E Articles Quantity				
RDT&E Articles Quantity				
RDT&E Articles Quantity				
RDT&E Articles Quantity				
RDT&E Articles Quantity				
RDT&E Articles Quantity				
RDT&E Articles Quantity				
RDT&E Articles Quantity				
RDT&E Articles Quantity				
RDT&E Articles Quantity				
RDT&E Articles Quantity				
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 6 of 63)

CLASSIFICATION:

			DATE:
			February 2004
PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND	ID NAME
0305206N Airborne Reconnaissance Systems		H2694 Advanced Digita	tal Sensors
FY 2003	FY 2004	FY 2005	
2.521	13.345	10.313	
2.521	12.206	10.191	
0.000	-1.139	-0.122	
	-0.148		
		-0.033	
	-0.991	-0.089	
- <u></u>			
0.000	-1.139	-0.122	
	0305206N Airborne Reconnaissance Systems FY 2003 2.521 2.521 0.000	FY 2003 FY 2004 2.521 13.345 2.521 12.206 0.000 -1.139 -0.148	Page

(U) Schedule:

Program Milestones - The FY02 JMOD 1 LRIP milestone was moved to 3Q/02 to reflect the rebaseline of the EP-3E JMOD 1 program, due to addition of Baseline Update. JMOD1 FRP milestone moved from 2Q/06 to 3Q/04 due to Acquisition Strategy Review (ASR) approval. Engineering Milestones - The FY02 PDR moved to 2Q/03 and the CDR to 4Q/03 to reflect the late JMOD contract award due to loss of USAF JASPO funds. T&E Milestones - The FY03 JMOD DTcompletes 4Q/03. OT originally scheduled to complete in 1Q/04 is now combined with Spiral 1 OT in 2Q/05. Story Finder DT slipped due to aircraft availability to 1Q/04. The FY05 Story Maker DT/OT was deleted since it is now included in Spiral 2 DT/OT. Spiral 1 DT/OT is 2Q/05. Spiral 2 DT/OT is 1Q/06. Contract Milestones - The 4Q/02 TKI R&D contract award was moved from 1Q/02 to 4Q/02 to reflect the baseline for the EP-3E program. Both Spiral 1 and Spiral 2 contract awards are expected 2Q/05.

(U) Technical:

Not Applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	February 2004						
PPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT NUM	BER AND NAM	ЛE	PROJECT NU	MBER AND N								
RDT&E, N / BA-7	0305206N Air	rborne Reconn	aissance Syste	ems	H2694 Adva	nced Digital S	Sensors							
(U) D. OTHER PROGRAM FUNDING SUMMARY	/ :													
(0, 2, 0, 1, 2, 1, 1, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	•							То	Total					
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost					
Line Item #33 APN-5 EP-3E OSIP 11-01	57.646	55.392	28.339	55.554	62.415	29.063	30.218	10.389	329.016					
Line Item #44 APN-5 Special Projects Aircraft OSIP 19-97	10.807	56.131	12.415	20.686	14.205	14.475	14.714	0.000	143.433					

(U) E. ACQUISITION STRATEGY:

Leverages/complements Air Force, Naval Research Laboratory, Office of Naval Research RDT&E efforts for technology insertions into EP-3E/SP productions programs.

CLASSIFICATION:

							DATE:				
e 1)									February 200)4	
ITY	PROGRAM E	LEMENT			PROJECT NU	IMBER AND	NAME				
							Sensors				
						-					
	,	-			-						Target Value of Contract
				Date	Cost	Date	Cost	Date	Complete		
	, , , , , , , , , , , , , , , , , , ,										4.287
	•			40/00	0.070	04/04					
33/CPFF	Lockneed Martin, CO	0.977	0.366	12/02	0.270	04/04				1.033	1.033
SS/CPFF	Raytheon Systems, IN		0.100	12/02	0.300	01/04				0.400	0.400
SS/CPFF	Raytheon Systems, TX		0.400	12/02						0.400	0.400
SS/CPFF	Raytheon Systems, TX	1.447								1.447	1.447
SS/CPFF	Raytheon Systems, TX	2.414								2.414	2.414
SS/CPFF	Condor, San Jose, CA	2.868								2.868	2.868
SS/CPFF	CTC, Johnstown, PA	4.228								4.228	4.228
SS/CPFF	Raytheon Indianapolis, IN				5.162	02/04				5.162	5.162
SS/CPFF	L3Com,TX				1.148	02/04				1.148	1.148
SS/CPFF	Argon, VA				2.500	01/04				2.500	2.500
SS/CPFF	TBD						3.490	12/04		3.490	3.527
SS/CPFF	Raytheon Systems, TX								12.897	12.897	12.897
	TBD						2.425	01/05	Continuing	Continuing	
	TBD						1.580	01/05	Continuing	Continuing	
		17 110	0 000		0 200		7 405		Continuing	Continuing	
	Method & Type SS/CPFF SS/CPFF SS/CPFF SS/CPFF SS/CPFF SS/CPFF SS/CPFF SS/CPFF SS/CPFF SS/CPFF SS/CPFF SS/CPFF SS/CPFF	Contract Method Activity & Location SS/CPFF BTG, Vienna, VA SS/CPFF Raytheon Systems, IN/TX SS/CPFF Raytheon Systems, IN/TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Condor, San Jose, CA SS/CPFF CTC, Johnstown, PA SS/CPFF Raytheon Indianapolis, IN SS/CPFF L3Com,TX SS/CPFF Argon, VA SS/CPFF TBD SS/CPFF Raytheon Systems, TX TBD	TY PROGRAM ELEMENT 0305206N Airborne Reconn Contract Method & Type Location SS/CPFF BTG, Vienna, VA SS/CPFF Raytheon Systems, IN/TX SS/CPFF Raytheon Systems, IN SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX SS/CPFF CTC, Johnstown, PA 4.228 SS/CPFF Raytheon Indianapolis, IN SS/CPFF Raytheon Systems, TX SS/CPFF Raytheon Systems, TX TBD TBD TBD	Contract Method Activity & Performing Activity & Py s Fy 03 Cost SS/CPFF BTG, Vienna, VA 0.898 SS/CPFF Raytheon Systems, IN/TX 4.287 SS/CPFF Raytheon Systems, TX 0.400 SS/CPFF Raytheon Systems, TX 1.447 SS/CPFF Raytheon Systems, TX 2.414 SS/CPFF Raytheon Systems, TX 2.414 SS/CPFF Condor, San Jose, CA 2.868 SS/CPFF Raytheon Indianapolis, IN SS/CPFF Raytheon Indianapolis, IN SS/CPFF Raytheon Systems, TX TBD TBD TBD	PROGRAM ELEMENT	PROGRAM ELEMENT 0305206N Airborne Reconnaissance Systems	PROGRAM ELEMENT 0305206N Airborne Reconnaissance Systems	PROGRAM ELEMENT Q305206N Airborne Reconnaissance Systems	PROGRAM ELEMENT 0305206N Airborne Reconnaissance Systems	PROGRAM ELEMENT O305206N Airborne Reconnaissance Systems	PROJECT NUMBER AND NAME PROJECT NUMBER A

Remarks:

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pagaPPROPRIATION/BUDGET ACTIV	je 1)									February 200	04	
	ITY	PROGRAM E	LEMENT			PROJECT NU						
RDT&E, N / BA-7		0305206N Air	borne Reconr	aissance Syste	ms	H2694 Adva	nced Digital S	Sensors				
Cost Categories		Performing	Total		FY 03		FY 04		FY 05			
	Method		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	1	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Develop Support		GRCI, Vienna, VA	1.994			0.560					2.816	
Develop Support	WX	NAWC,WD, China Lake, CA	3.51	0.434	12/02	0.835					4.780	
Develop Support	WX	NSWC, Dahlgren, VA	0.589)		0.225	12/03				0.814	
Software Development - Story Maker	SS/CPFF	GD, Sunnyvale, CA	1.800	0.550	12/02	0.326	02/04				2.682	2.682
Develop Support - Spiral 1		TBD						1.096	01/05	Continuing	Continuing	
Develop Support - Spiral 2		TBD						0.730	01/05	Continuing	Continuing	
										+		
Subtotal Support			7.900	1.246		1.946	;	1.826		Continuing	Continuing	
Captotal Capport	-		7.00	1.240	I	1.0-10	1	1.020	1	Continuing	Continuing	
Remarks:												

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis	(page 2)						T				February 200)4	
APPROPRIATION/BUDGET A			OGRAM EL				PROJECT NU						
RDT&E, N / BA-					aissance Syste	FY 03	H2694 Adva	nced Digital	Sensors	IEV 05	1	1	т —
Cost Categories	Contract Method	Performing Activity &		Total PY s	FY 03	Award	FY 04	Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	Location				Date	Cost	Date	Cost	Date		Cost	of Contract
DT/OT & Eval	WX	NAWC,AD Pax R		0.250		Date	0.270		0001	Date	Complete	0.520	1
DT/OT & Eval	WX	NRL, MD	IVOI, IVID	0.100		11/02	0.110					0.310	1
T&E - Spiral 1	TBD	TBD		0.100	0.100	11/02	0.110	02/01	0.37	0 01/05	Continuing	Continuing	
Tal Opilal I	100	155							0.07	0 01700	Continuing	Continuing	
Subtotal T&E				0.350	0.100		0.380)	0.37	0	Continuing	Continuing	
Remarks:													
Systems Eng Suppt	WX	NAWC,AD Pax R	iver, MD	0.811	0.139	11/02	0.350	01/04	0.35	01/05	Continuing	Continuing	1
Travel	wx	NAWC,AD Pax R		0.100	0.100		0.100	11/03	0.10	0 01/05	Continuing	Continuing	1
ILS Suppt	wx	NAWC,AD Pax R		0.050	0.050		0.050		0.05	01/05	Continuing	Continuing	1
											·	•	
Subtotal Management				0.961	0.289		0.500)	0.50	00	Continuing	Continuing	,
Remarks:													
1													
Total Cost				26.330	2.521		12.206	;	10.19	11	Continuing	Continuing	Ţ
	I	1		20.000	2.021	I	.2.200	1	.0.10				
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile)																							DATE	:	F	ebrua	rv 20	004		
APPROPRIATION/BUDGET									PROC	SRAM	ELEM	ENT N	UMBE	R AND	NAM (E						ECT N						obi ac	y	/0 1		
RDT&E, N /	BA-7	7							03052	206N /	Airborn	ne Rec	onnais	sance	Systen	ns	1				H269	4 Adv	anced	Digit	al Ser	sors			1			
Fiscal Year						20	03			20	04			20	05			20	06			20	07			20	08			200)9	
	1	2	3	4	1	2	3	4	1	2	3		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones Milestones						LRIP	II		S	SP SRI	R F	RP																				
Engineering Milestones						PDR		CDR																								
Test & Evaluation Milestones							Co	mplet	e DT																							
Development Test									SF DT	ļ 				Spiral	1																	
Development Test/ Operational Test													2		7		Spiral	2														
Contract Milestones												0 : 1	4.0																			
														tract A																		

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					F	DATE: ebruary 200)4	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&E, N / BA-7	0305206N Ai	rborne Reconna	aissance Syste	ms	H2694 Advar	nced Digital S	ensors	
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
System Requirements Review (SRR)			SP 2Q					
Preliminary Design Review (PDR)		2Q						
LRIP II		2Q						
Critical Design Review (CDR)		4Q						
Developmental Testing		3Q-4Q						
Full Rate Production (FRP)			3Q					
Story Finder DT			1Q					
Spiral 1 DT/OT				2Q				
Spiral 2 DT/OT					1Q			
Spiral 1 Contract Award				2Q				
Spiral 2 Contract Award				2Q				
								<u> </u>

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMI	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0305206N Airborn	e Reconnaissance	Systems		R2476 Framing Re	econnaissance Car	nera	
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		2.817						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

There are two primary objectives for the Advanced Technology funding: (1) to evaluate the utility and maturity of technology for airborne reconnaissance applications and (2) to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations (ACTDs), by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the Integrated Airborne Reconnaissance Strategy (IARS). These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan (ARTPP), published in November 1994. Transition of sensors to AF TARS, and Navy TARPS-CD and SHARP programs has been successful. Congress added funds in FY 2001 to (1) develop and Advanced Focal Plane Array for smaller electro-optical framing size, (2) develop and upgrade the Sensor to and 18 inch lens and integrate an existing dual banned sensor into the TARP pod, and (3) to upgrade the Airborne Reconnaissance System Hyperspectral Module.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

	tion			DATE: February	2004
ROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBE	FR AND NAME	PROJECT NUMBER AND N		2004
T&E, N / BA-7	0305206N Airborne Reconnais		R2476 Framing Reconnaiss		
•	030320011 Allbottle Recollitats	ssance Systems	N2470 Framing Recommass	ance Camera	
B. Accomplishments/Planned Program					
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		0.500	0.000	0.000	
RDT&E Articles Quantity					
Demonstration of JPEG 2000 Image Decomposition	ression Boards completed.				
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		0.500	0.000	0.000	
RDT&E Articles Quantity					
		5)/ 00			
		FY 03	FY 04	FY 05	
		0.000	FY 04 0.000	FY 05 0.000	
RDT&E Articles Quantity	Strike. Real time data fusion processor	0.000			
RDT&E Articles Quantity	Strike. Real time data fusion processor	0.000			
RDT&E Articles Quantity	Strike. Real time data fusion processor	0.000			
RDT&E Articles Quantity	Strike. Real time data fusion processor	0.000 completed.	0.000	0.000	
RDT&E Articles Quantity EO Framing Camera Upgrades for Precision S	Strike. Real time data fusion processor	0.000 completed.	0.000 FY 04	0.000 FY 05	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity EO Framing Camera Upgrades for Precision S Accomplishments/Effort/Subtotal Cost	Strike. Real time data fusion processor	0.000 completed.	0.000	0.000	
RDT&E Articles Quantity EO Framing Camera Upgrades for Precision S Accomplishments/Effort/Subtotal Cost	Strike. Real time data fusion processor	0.000 completed.	0.000 FY 04	0.000 FY 05	
RDT&E Articles Quantity EO Framing Camera Upgrades for Precision S		0.000 completed.	0.000 FY 04	0.000 FY 05	
RDT&E Articles Quantity EO Framing Camera Upgrades for Precision S Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity		0.000 completed.	0.000 FY 04	0.000 FY 05	
RDT&E Articles Quantity EO Framing Camera Upgrades for Precision S Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity		0.000 completed.	0.000 FY 04	0.000 FY 05	
RDT&E Articles Quantity EO Framing Camera Upgrades for Precision S Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity		0.000 completed.	0.000 FY 04	0.000 FY 05	
RDT&E Articles Quantity EO Framing Camera Upgrades for Precision S Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity		0.000 completed.	0.000 FY 04	0.000 FY 05	
RDT&E Articles Quantity EO Framing Camera Upgrades for Precision S Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity		0.000 completed.	0.000 FY 04	0.000 FY 05	

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 15 of 63)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND	D NAME	
RDT&E, N / BA-7	0305206N Airborne Reconnaissance Systems		R2476 Reconnaissance (Camera	
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget: Current BES/President's Budget	2.887	0.000	0.000		
Total Adjustments		0.000	0.000		
Summary of Adjustments Congressional program reductions	-0.054				
Congressional undistributed reductions	0.65				
Congressional rescissions SBIR/STTR Transfer					
Economic Assumptions	-0.016				
Reprogrammings					
Other adjustments					
Reprioritization of requirements Congressional increases					
Subtotal	-0.070	0.000	0.000		
(U) Schedule:					
Not Applicable.					
(U) Technical:					
` '					
Not Applicable					
	D_1 QHODDING LIGT_IF	NI-	100		

CLASSIFICATION:

HIBIT R-2a, RDT&	E Project Justification							DATE:		
									Februar	y 2004
PROPRIATION/BUDGE		PROGRAM E	LEMENT NUM	IBER AND NAM	ИE	PROJECT NU	IMBER AND N	IAME		
T&E, N /	BA-5	0305206N Air	borne Reconn	aissance Syste	ems	R2476 Framin	g Reconnaiss	ance Camera		
(U) D. OTHER PRO	OGRAM FUNDING SUMMARY:									
(0) 21 0 111211 111									То	Total
Line Item No. & N	<u>ame</u>	<u>FY 2003</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
PE 0305207N	DARP, Special Project A/C	29.335	10.649	10.939	11.410	11.589			11.764	85.686
1 2 000020111,	Driver, Opeolar Fojocervo	20.000	10.010	10.000	11.110	11.000			1101	00.000
(II) E AGGUIGITION	OTD ATEOV									
(U) E. ACQUISITION	STRATEGY:									
The program is	to develop framing reconnaissance ca	amera technology to sur	port improved	capabilities for	programs suc	h as SHARP.				
ino program io	to develop manning recommendation of	amera teermelegy to eap	pop. 0.00	oapasoo ioi	programo out					

CLASSIFICATION:

Remarks:

								DATE:				
Exhibit R-3 Cost Analysis (page	1)										February 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM	ELEMENT			PROJECT NU	JMBER AND	O NAME				
RDT&E. N / BA-7		0305206N		nnaiseance A	dvanced Devel			issance Camera				
Cost Categories	Contract	Performing	Total		FY 03	5 112-47 0 1 Tallill	FY 04		FY 05			
Cost Categories	Method	Activity &	PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
IR Array	C/CPFF	Recon Opt., Barrington, IL	1.661		Date	0031	Date	0031	Date	Complete	1.66	
Dual Band Camera	C/CPFF	Recon Opt., Barrington, IL	12.212		+		+				12.21	
Long Range Camera	C/CPFF	Recon Opt., Barrington, IL	2.000	1							2.00	
Hyperspectral Module	C/CPFF	Recon Opt., Barrington, IL	1.500				1				1.50	
Camera for Hyperspectral	C/CPFF	Recon Opt., Barrington, IL	1.000				1				1.00	-
Visible and SWIR Modules	C/CPFF	ITS, Honolulu, HI	3,300								3.30	
Precision Strike System	C/CPFF	Recon Opt., Barrington, IL	1.250								1.25	
Flight Tests	WR	NRL. Wash DC	2.290)							2.29	0 2.29
Compression board development	C/CPFF	Space Dyn. Lab. Logan, UT	3.400)							3.40	0 3.40
Precision Strike camera	C/CPFF	Recon Opt., Barrington, IL	1.290)							1.29	0 1.29
100 Megapixel Camera Test	C/CPFF	Recon Opt., Barrington, IL	4.513	3							4.51	3 4.51
Hyperspectral Modular Upgrades	CPFF	Recon Opt., Barrington, IL	6.500)							6.50	0 6.50
Development Upgrade Integrate Sensor	CPFF	Recon Opt., Barrington, IL	4.980)							4.98	4.98
Develop advanced focal plane shutter	WR	MIT Lincoln Lab, Bedford MA	0.170)							0.17	0.17
Hyperspectral Target Cueing Demo	CPFF	Recon Opt., Barrington, IL	0.656	0.35	09/03						1.00	1.00
EO Framing Camera Upgrades	CPFF	Recon Opt., Barrington, IL	5.903	0.20	0 10/03						6.10	6.10
Decompression Board Development	CPFF	Space Dyn. Lab. Logan, UT	0.800)							0.80	
Real Time Data Fusion Processor	TBD	TBD									0.00	0.00
Flight Test Support	CPFF	Recon Opt., Barrington, IL	0.940)							0.94	0.94
Decompression Board Demonstration	CPFF	Space Dyn. Lab. Logan, UT		0.35	0 09/03						0.35	0.35
ARIES Upgrades	CPFF	Space Dyn. Lab. Logan, UT		1.41	7 03/03						1.41	7 1.41
Subtotal Product Development			54.365	2.31	7	0.000	0	0.0	000		56.68	56.68

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (p	age 2)										February 20	04	
APPROPRIATION/BUDGET ACT	IVITY		PROGRAM E	ELEMENT			PROJECT	NUMBER AN	D NAME		•		
RDT&E, BA-7			0305206N	Airborne Recor	naissance Ad	vanced Develo	p R2476 Fra		aissance Came	ra			
Cost Categories	Contract Method	Performing Activity &	•	Total PY s	FY 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Camera test support	C/CPFF	NRL, Wash, D		0.672							0.000		
Technical Support	WR	NRL, Wash, D	OC .		0.50	0 09/03						0.50	0
Subtotal T&E				0.672	0.50	0					0.000	0 1.17	2
Remarks:													
Contractor Engineering Support	C/CPFF	Various		4.234								4.23	4.234
Systems Support	WR	NRL, Wash, DC)	1.114								1.11	
						ļ							
													+
Subtotal Management				5.348	0.00	0			0.	000		5.34	3
Remarks:													
Total Cost				60.385	2.81	7	0.	000	0.	000		63.20	2
Remarks: This program has no	support costs				DDINIC LIST		100						

CLASSIFICATION:

EXHIBIT R4, Schedule	e Profile	!																							DATE	<u> </u>	Fe	ebrua	ry 20	04		
APPROPRIATION/BUDGE RDT&E, N /	T ACTIV													R AND								ECT N				/IE ance (
RDTQL, N 7		20	n2			20	03		03032		04	e Neci		200		113		2	006		11247	200		(CCOII	lilaiss	20		as		20	19	
Fiscal Year			T				оо Г				T .									I						T		I				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones Milestones																																
Engineering Milestones	JF	EG 20	000 L				JPEG	2000	Demo	₹ ∨	rget	_	Aries Upgra	ades																		
										Cı	eing																					
Test & Evaluation Milestones																																
Development Test Operational Test																																
Contract Milestones																																
														DDIN																		<u> </u>

R-1 SHOPPING LIST - Item No. 199

Exhibit R-4 Schedule Profile (Exhibit R-4, page 20 of 63)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						l	February 20	004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM	ELEMENT			PROJECT NU	MBER AND NA		
RDT&E, N / BA-7	0305206N	Airborne Reconna	aissance Syste	ms	R2476 Frami	ing Reconnais	ssance Came	eras
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Complete Decompression Boards		4Q						
JPEG 2000 Demonstration			2Q					
Target Cueing Demonstration			3Q					
Complete Aries Upgrades			4Q					
					1			

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	n						DATE:	
							February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT N	UMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, BA-7	0305206N Airborne Reconnaissance Systems R2807 Hyperspectral Upgrade				ctral Upgrade to	Airborne Cameras		
COST (\$ in Millions)	F	Y 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		* 3.416	** 3.955					
RDT&E Articles Qty								

^{*}The FY2003 includes Congressional adds reflecting Hyperspectral Upgrades to Airborne Cameras (\$3.416 million) which will be executed under R2807.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

There are two primary objectives for the Advanced Technology funding: (1) to evaluate the utility and maturity of technology for airborne reconnaissance applications and (2) to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations (ACTDs), by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the Integrated Airborne Reconnaissance Strategy (IARS). These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan (ARTPP), published in November 1994. Transition of sensors to AF TARS, and Navy TARPS-CD and SHARP programs has been successful. Congress added funds in FY 2001 to (1) develop and Advanced Focal Plane Array for smaller electro-optical framing size, (2) develop and upgrade the Sensor to and 18 inch lens and integrate an existing dual banned sensor into the TARP pod, and (3) to upgrade the Airborne Reconnaissance System Hyperspectral Module.

R-1 SHOPPING LIST - Item No.

^{**}The FY2004 includes Congressional adds reflecting Modular Upgrades to Airborne Reconnaissance Sensors (\$3.9 million) which will be executed under R2807.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificati	UH			DATE:	
•				February	2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	R AND NAME	PROJECT NUMBER AND N		
DT&E, N / BA-7	0305206N Airborne Reconnaiss	sance Systems	R2807 Hyperspectral Upg	ade to Airborne Cameras	
•		•	71 1 15		
B. Accomplishments/Planned Program					
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		3.200	0.000	0.000	
RDT&E Articles Quantity					
Hyperspectral upgrade to airborne cameras cor	pleted.				
Hyperspectral upgrade to airborne cameras cor	npleted.				
Hyperspectral upgrade to airborne cameras cor	npleted.				
Hyperspectral upgrade to airborne cameras cor	ppleted.				
Hyperspectral upgrade to airborne cameras cor	npleted.				
Hyperspectral upgrade to airborne cameras cor	npleted.				
Hyperspectral upgrade to airborne cameras cor	npleted.	FY 03	FY 04	FY 05	
	npleted.	FY 03 0.216	FY 04 0.000	FY 05 0.000	
	npleted.				
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	npleted.				
	npleted.				
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	npleted.				
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	npleted.				
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	npleted.				
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	npleted.				
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	npleted.	0.216	0.000	0.000	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity amera test support.	npleted.	0.216 FY 03	0.000 FY 04	0.000 FY 05	

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND	
RDT&E, N / BA-7	0305206N Airborne Reconnaissance Systems	R2807 Hyperspectral Up	ograde to Airborne Cameras
(U) C. PROGRAM CHANGE SUMMARY:			
(U) Funding:	FY 2003	FY 2004 FY 2005	
Previous President's Budget:	3.416	0.000 0.000	
Current BES/President's Budget	3.416	3.955 0.000	
Total Adjustments	0.000	3.955 0.000	
Summary of Adjustments Congressional program reductions Congressional undistributed reductions Congressional rescissions SBIR/STTR Transfer Economic Assumptions Reprogrammings Other Adjustments Reprioritization of requirements Congressional increases Subtotal	0.000	3.955 3.955 0.000	
Subtotal	0.000	3.955 0.000	
(U) Schedule:			
Not Applicable.			
(U) Technical:			
Not Applicable			
	R-1 SHOPPING LIST - It	em No. 199	

CLASSIFICATION:

חוסוו א-2a, אטומו	E Project Justification							DATE:	Februai	n 2004
PROPRIATION/BUDGE	T ACTIVITY	PROGRAM EI	EMENT NUM	BER AND NAM	ΛΕ.	PROJECT NU	IMBER AND N	I IAMF	rebiuai	y 2004
DT&E, N /	BA-5	0305206N Air						rade to Airbo	rne Cameras	
•		<u> </u>				, ,,		,		
(U) D. OTHER PRO	GRAM FUNDING SUMMARY:									
Lina Itama Na 9 N	la ma a	EV 0000	EV 0004	EV 0005	FV 0000	F)/ 0007	E)/ 0000	F)/ 0000	To	Total
Line Item No. & N	<u>lame</u>	<u>FY 2003</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	Cost
PE 0305207N,	DARP, Special Project A/C	29.335	10.649	10.939	11.410	11.589			11.764	85.686
(U) E. ACQUISITION	STRATEGY:									
The program is	to develop framing reconnaissance ca	mera technology to sur	nort improved	canabilities for	nrograms su	ch as SHARP				
The program is	to do voiop manning rooti maiocarioo oc	amora toormology to our	port improvod	capabilities for	programo ou	011 40 01 1/4 11 1				

CLASSIFICATION:

Г									1				
									DATE:				
Exhibit R-3 Cost Analysis (pag	ge 1)										February 2	:004	
APPROPRIATION/BUDGET ACTIV	'ITY		PROGRAM	ELEMENT			PROJECT NU	JMBER AND	NAME				
RDT&E, N / BA-7			0305206N	Airborne Reco	nnaissance Adv	anced Develop	R2807 Hype	rspectral Up	grade to Airb	orne Camer	as		
Cost Categories	Contract	Performing	•	Total		FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete		of Contract
Hyperspectral Modular Upgrades	C/CPFF	TBD			3.200	09/03						3.200	3.200
Longwave Infrared Upgrade	C/CPFF	TBD					3.655	05/04				3.655	3.655
									+				
													
0.1.1.1.5					2.00							0.055	0.055
Subtotal Product Development					3.200)	3.655					6.855	6.855
Remarks:													
													

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Ana	alysis (page 2)										February 200	04	ļ
APPROPRIATION/BUD	OGET ACTIVITY		PROGRAM	M ELEMENT			PROJECT NU	MBER AND	NAME		•		
RDT&E, N /	BA-7		0305206N	Airborne Reco	nnaissance /		elop R2807 Hypei	rspectral Up	grade to Airb		as		ŀ
Cost Categories	Contra Metho		ng &	Total PY s	FY 03	FY 03 Award		FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	e Location	î	Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Camera test support	C/CPF			-	0.2			20.5	1	1	0.000		
Camera test support		FF NRL, Wa					0.300	02/04					
Cubtatal TVE				0.000	0.	046	0.300				0.000	0.516	
Subtotal T&E				0.000	0.2	16	0.300	<u> </u>			0.000	0.510	4
					T					T		0.000	0.000
												0.000	0.000
				_	 	+				+		+	-
		_		+	+	+			+	+			1
				1	t	<u> </u>			1	1	1	†	
Subtotal Management				0.000	0.0	00			0.00)0		0.000)
Remarks:													
Total Cost				0.000	3.4	16	3.955		0.00)0		7.371	6.855
Remarks: This prograr	m has no support co	osts.											

CLASSIFICATION:

EXHIBIT R4, Schedule	e Profile																								DATE	:	Fé	brua	ry 20	04		
APPROPRIATION/BUDGE	T ACTIVI													R AND								ECT N 7 Hyp				1E de to A						
Fiscal Year		20	02			20	03			20				20				20	006			200				20				20	09	
riscal real	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones Milestones																																
						ŀ	Hypersp	pectral	Modu																							
Engineering Milestones								\triangle	7	, 	amera	Upgra	de																			
Engineering Milestones															Long Upgr	wave I ade	nfrared	I														
Test & Evaluation Milestones																																
Development Test Operational Test																																
Contract Milestones																																

R-1 SHOPPING LIST - Item No. 199

Exhibit R-4, Schedule Profile (Exhibit R-4, page 28 of 63)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
							ebruary 20	004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU			
RDT&E, N / BA-7	0305206N Ai	rborne Reconna	aissance Syste	ems	R2807 Hypei	spectral Upgi	rade to Airbo	rne Cameras
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Camera Upgrade			3Q					
Hyperspectral Module		4Q						
Commence Longwave Infrared Upgrade			3Q					
Complete Longwave Infrared Upgrade				2Q				

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:					
							Februa	ry 2004				
APPROPRIATION/BUDGET ACTIVITY												
RDT&E, BA-7	Optical Framing Reconnaissance Camera											
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009				
Project Cost		* 4.977	** 3.461									
RDT&E Articles Qty												

^{*}The FY2003 includes Congressional adds reflecting Electro-Optical Framing Reconnaissance Cameras (\$4.977 million) which will be executed under R9114.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

There are two primary objectives for the Advanced Technology funding: (1) to evaluate the utility and maturity of technology for airborne reconnaissance applications and (2) to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations (ACTDs), by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the Integrated Airborne Reconnaissance Strategy (IARS). These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan (ARTPP), published in November 1994. Transition of sensors to AF TARS, and Navy TARPS-CD and SHARP programs has been successful. Congress added funds in FY 2001 to (1) develop and Advanced Focal Plane Array for smaller electro-optical framing size, (2) develop and upgrade the Sensor to and 18 inch lens and integrate an existing dual banned sensor into the TARP pod, and (3) to upgrade the Airborne Reconnaissance System Hyperspectral Module.

R-1 SHOPPING LIST - Item No.

^{**}The FY2004 includes Congressional adds reflecting Advanced Airborne Image Processor (\$3.461 million) which will be executed under R9114.

CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justificat	on		DATE:	
CORPLATION (PURCET A OTIVITY	DDOOD AN ELEMENT AUMDED AND MAKE	DDO JEOT NIJIMBED AND A	February 2004	
ROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND I		
T&E, N / BA-7	0305206N Airborne Reconnaissance Systems	R9114 Electro-Optical Fr	aming Reconnaissance Camera	
B. Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	
RDT&E Articles Quantity				
•		<u> </u>	<u> </u>	
Electro-Optical Framing Reconnaissance Came	eras completed.			
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.450	0.000	0.000	
RDT&E Articles Quantity	0.400	0.000	0.000	
TO TOE 7 II II O O COUNTY				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	1.977	0.000	0.000	
RDT&E Articles Quantity				
•	<u> </u>	<u>.</u>	<u> </u>	
Electro-Optical Framing Reconnaissance (Cameras completed.			
,	·			
		EV 04	EV of	
Accomplishments/Effort/Subtatal Cost	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	FY 03 0.000	FY 04 3.461	FY 05 0.000	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity				
RDT&E Articles Quantity	0.000			
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity An Advanced Airborne Image Processor w	0.000			
RDT&E Articles Quantity	0.000			
RDT&E Articles Quantity	0.000			
RDT&E Articles Quantity	0.000			

Exhibit R-2a, RDTEN Project Justification

CLASSIFICATION:

	ELEMENT NUMBER AND NAME Airborne Reconnaissance Systems FY 03 0.700	PROJECT NUMBER AND N. R9114 Electro-Optical Fra	February 200 AME Iming Reconnaissance Camera FY 05 0.000	4
DT&E, N / BA-7 0305206N DT&E, N / BA-7 0305206N DELOTATION OF THE PROPERTY	Airborne Reconnaissance Systems FY 03	R9114 Electro-Optical Fra	AME Iming Reconnaissance Camera	
Accomplishments/Planned Program Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity				
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity				
RDT&E Articles Quantity				
RDT&E Articles Quantity	0.700	0.000	0.000	
Electro-Optical Framing Reconnaissance Cameras completed.				
Electro-Optical Framing Reconnaissance Cameras completed.				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	1.850	0.000	0.000	
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		CT NUMBER AND	
RDT&E, N / BA-7	0305206N Airborne Reconnaissance Systems	R9114	1 Electro-Optical I	Framing Reconnaissance Camera
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2003		Y 2005	
Previous President's Budget:	4.977	0.000	0.000	
Current BES/President's Budget	4.977	3.461	0.000	
Total Adjustments	0.000	3.461	0.000	
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions				
Congressional rescissions				
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Othre Adjustments				
Reprioritization of requirements Congressional increases	0.000	3.461		
Subtotal	0.000	3.461	0.000	
Custotal	0.000	0.101	0.000	
(U) Schedule:				
Not Applicable.				
(U) Technical:				
Not Applicable				
••				
	P_1 SHODDING LIST - It	am No 100		

CLASSIFICATION:

XHIBIT R-2a, RDT&I	E Project Justification							DATE:		
PPROPRIATION/BUDGE	T ACTIVITY	PROGRAM EL	EMENT NUM	BER AND NAM	ИF	PROJECT NU	IMBER AND N	JAME	Februa	ry 2004
DT&E, N /	BA-5	0305206N Air							naissance Cam	iera
				•				<u> </u>		
(U) D. OTHER PRO	GRAM FUNDING SUMMARY:								То	Total
Line Item No. & N	<u>ame</u>	<u>FY 2003</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
PE 0305207N,	DARP, Special Project A/C	29.335	10.649	10.939	11.410	11.589			11.764	85.686
40										
(U) E. ACQUISITION										
The program is	to develop framing reconnaissance c	amera technology to sup	port improved	capabilities for	programs suc	ch as SHARP.				

CLASSIFICATION:

									DATE:				l
Exhibit R-3 Cost Analysis (pagaPPROPRIATION/BUDGET ACTIV	ge 1)										February 20)04	
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E	ELEMENT			PROJECT NU	JMBER AND I	NAME				
RDT&E, N / BA-7			0305206N	Airborne Recor	nnaissance Adv	anced Develor	R9114 Elect	ro-Optical Fr	aming Recor	ınaissance C	camera		
Cost Categories	Contract	Performing		Total		FY 03		FY 04	T	FY 05			
_	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost		Date	Cost	Date	Cost	Date	Complete		of Contract
Framing Camera Upgrades		Recon Opt., I	Barrington, IL		4.460	10/03						4.460	
Airborne Image Processor	C/CPFF	TBD					3.261	05/04				3.261	3.261
													<u> </u>
					<u> </u>		_	<u> </u>					
					 	 	 		4				ļ
		 			 	+	 	<u> </u>		+			
				+	 		+	<u> </u>					-
		+		+	+		+	 		+			+
	_	+		+	+	+	+	 	+	+		+	+
	+	+		+	+	+	+	 	+	+		+	+ +
	+	+		+	+	+	+	+	+	+	_	+	+
		+		+	+	+	+	 	+	+	-	-	+
	+	+		+	+	†	+		-	+		+	+
	_	†		+	†	†	†			1		+	
		1		1	1	1	1	1					
		1			1	1	1						
		T			1	T			1				
		<u> </u>				<u> </u>							
Subtotal Product Development					4.460)	3.261					7.721	7.721
Remarks:													

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Ana	alysis (page 2)										February 20	04	
APPROPRIATION/BUDG	GET ACTIVITY		PROGRAM E	LEMENT			PROJECT NU	JMBER AND	NAME		-		
RDT&E, N /	BA-7		0305206N A	Airborne Recor	nnaissance		Develop R9114 Electi	ro-Optical F	raming Recor	nnaissance C	Camera		
Cost Categories	Contract Method	Activity &			FY 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type				Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Camera test support	WR	NRL, Wash, I		0.000	0	.517					0.000		
Camera test support	WR	NRL, Wash, [)C				0.200	02/04				0.200	1
Subtotal T&E				0.000) ().517	0.200)			0.00	0 0.717	7 0.517
		T		Τ	Τ			Τ	1			0.000	
												0.000	0.000
		+			<u> </u>			<u> </u>	_				+
		T		†	<u> </u>			T	1	<u> </u>			†
Subtotal Management				0.000		0.000			0.00	00		0.000	
Remarks:													
Total Cost				0.000	1	1.977	3.461		0.00	00		8.438	8.238
Remarks: This program	ı has no support cos	ts.											

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile																								DATE	:	E,	hrua	ry 20	0.4		
APPROPRIATION/BUDGE RDT&E, N /	T ACTIVI									GRAM 206N A															I D NAM Frami					mera		
Fiscal Year		20	02			20	03			20					05			20	006			20				20				200		
riscal feal	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones Milestones																																
									IF C	RFPA p emo	roduci	bility																				
Engineering Milestones											<u> </u>	Imi	proved	came	ra																	
Engineering Milestones										. <u> </u>	\triangle				Airbo	rne Im essor	age															
Test & Evaluation Milestones																																
Development Test Operational Test																																
Contract Milestones																																
																														le Pro		

R-1 SHOPPING LIST - Item No. 199

Exhibit R-4, Schedule Profile

(Exhibit R-4, page 37 of 63)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						ı	February 20	004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM	ELEMENT			PROJECT NU			
RDT&E, N / BA-7	0305206N A	Airborne Reconna	aissance Syste	ms	R9114 Electr	o-Optical Fra	ming Reconr	n Camera
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
IRFPA Producibility			2Q/3Q					
Improved Camera			3Q/4Q					
Commence Airborne Image processor			3Q					
Complete Airborne Image processor				2Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		-
RDT&E, BA-7	0305206N Airborr	ne Reconnaissance	Systems		R9115 NRL Appl	ied Optics Recon	naissance Techno	ology
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		2.440						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

There are two primary objectives for the Advanced Technology funding: (1) to evaluate the utility and maturity of technology for airborne reconnaissance applications and (2) to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations (ACTDs), by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the Integrated Airborne Reconnaissance Strategy (IARS). These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan (ARTPP), published in November 1994. Transition of sensors to AF TARS, and Navy TARPS-CD and SHARP programs has been successful. Congress added funds in FY 2001 to (1) develop and Advanced Focal Plane Array for smaller electro-optical framing size, (2) develop and upgrade the Sensor to and 18 inch lens and integrate an existing dual banned sensor into the TARP pod, and (3) to upgrade the Airborne Reconnaissance System Hyperspectral Module.

R-1 SHOPPING LIST - Item No.

^{*}The FY2003 includes Congressional adds reflecting NRL Applied Optics Reconnaissance Technology (\$2.440 million) which will be executed under R9114.

CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justificat	1011		DATE:	
			Februa	ary 2004
ROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N		
Γ&E, N / BA-7	0305206N Airborne Reconnaissance Systems	R9115 NRL Applied Option	cs Reconnaissance Technol	ogy
3. Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.790	0.000	0.000	
RDT&E Articles Quantity				
NRL Applied Optics Reconnaissance Technolo	ay completed			
	gy completed.			
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		FY 04 0.000	FY 05 0.000	
	FY 03			
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03 0.500			
Accomplishments/Effort/Subtotal Cost	FY 03 0.500			
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03 0.500			
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03 0.500			
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03 0.500			
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03 0.500	0.000	0.000	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity NRL Applied Optics Reconnaissance Tech	FY 03 0.500 nnology completed.	0.000 FY 04	0.000 FY 05	
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 03 0.500	0.000	0.000	

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

	DATE:	
T&E, N / BA-7 0305206N Airborne Reconnaissance Systems 3. Accomplishments/Planned Program FY 03 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	February 2004	
T&E, N / BA-7 0305206N Airborne Reconnaissance Systems B. Accomplishments/Planned Program FY 03 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	PROJECT NUMBER AND NAME	
B. Accomplishments/Planned Program FY 03 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	R9115 NRL Applied Optics Reconnaissance Technology	
Accomplishments/Effort/Subtotal Cost 0.400 RDT&E Articles Quantity		
Accomplishments/Effort/Subtotal Cost 0.400 RDT&E Articles Quantity		
RDT&E Articles Quantity	FY 04 FY 05	
	0.000 0.000	
IRL Applied Optics Reconnaissance Technology completed.		
IRL Applied Optics Reconnaissance Technology completed.		

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a	a, RDT&E Project Justification				DATE:
					February 2004
	N/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER ANI	
RDT&E, N /	BA-7	0305206N Airborne Reconnaissance Systems		R9115 NRL Applied O	ptics Reconnaissance Technology
(U) C. PR	OGRAM CHANGE SUMMARY:				
	Funding:	FY 2003	FY 2004	FY 2005	
	vious President's Budget:	2.440	0.000	0.000	
	ent BES/President's Budget	2.440	0.000	0.000	
Tota	al Adjustments	0.000	0.000	0.000	
	Summary of Adjustments				
	Congressional program reductions				
	Congressional undistributed reductions				
	Congressional rescissions				
	SBIR/STTR Transfer				
	Economic Assumptions				
	Reprogrammings				
	Other Adjustments				
	Reprioritization of requirements				
	Congressional increases				
	Subtotal	0.000	0.000	0.000	
	Gubiotal	0.000	0.000	0.000	
(11) 9	Schedule:				
1	Not Applicable.				
(U) ⁻	Technical:				
	Not Applicable				
		R-1 SHOPPING LIST - Ite	em No.	199	

CLASSIFICATION:

,	E Project Justification							DATE:	Februai	ry 2004
ROPRIATION/BUDGE	T ACTIVITY	PROGRA	M ELEMENT NUM	IBER AND NAM	ЛЕ	PROJECT NU	IMBER AND N	IAME	i coi dai	y 2004
DT&E, N /	BA-5		I Airborne Reconn						sance Technolo	oav
(U) D. OTHER PRO	OGRAM FUNDING SUMMARY:								To	Total
Line Item No. & N	ame	_ FY 200	3 FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	<u>Cost</u>
PE 0305207N,	DARP, Special Project A/C	29.335	10.649	10.939	11.410	11.589			11.764	85.686
(U) E. ACQUISITION	STRATEGY:									
The program is	s to develop framing reconnaissance	camera technology to	support improved	l capabilities for	programs su	ch as SHARP.				

CLASSIFICATION:

										1				
										DATE:				
Exhibit R-3 Cost Ana	alysis (pag	e 1)										February 20	004	
APPROPRIATION/BUD		TY		PROGRAM I					NUMBER AND					
RDT&E, N /	BA-7			0305206N		nnaissance Ad		p R9115 NR	L Applied Opt	ics Reconnai		nology		
Cost Categories		Contract	Performing		Total		FY 03		FY 04		FY 05			
		Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
		& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Reconnaissance Techno	ologies	CPFF	TBD			2.000	12/03						2.000	2.000
								+						
						+		-	_	_				
								+	+					
Subtotal Product Develop	ment					2.000	0						2.000	2.000
Remarks:														
						DDINIO LIOT								

CLASSIFICATION:

										DATE:					
Exhibit R-3 Cost Ana APPROPRIATION/BUDG	lysis (page 2)											Februar	y 200)4	
			PROGRAM	ELEMENT				PROJECT	NUMBER AND	D NAME					
RDT&E, N /	BA-7		0305206N	Airborne Reco	nnaissa	nce Adv	vanced Develo	R9115 NI	RL Applied Op	ptics Reconnai	ssance Tec	hnology			
Cost Categories	Contract	Performing	•	Total			FY 03		FY 04		FY 05				
	Method	Activity &		PY s	FY 03		Award	FY 04	Award	FY 05	Award	Cost to		Total	Target Value
	& Type	Location		Cost	Cost		Date	Cost	Date	Cost	Date	Complete		Cost	of Contract
Camera test support	WR	NRL, Wash, I	DC	0.000)	0.440	09/03						0.000	0.440)
		1		+											
		-										_			<u> </u>
Subtotal T&E				0.000	1	0.440							0.000	0.440	
Odbiotai 142		1		0.000	<u> </u>	0.110				ı	ı	I	0.000	0.110	'I
		T												0.000	0.000
														0.000	0.000
Subtotal Management		-		0.000		0.000				0.0	20	_		0.000	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Subtotal Management		1		0.000	ــــــــــــــــــــــــــــــــــــــ	0.000	1			0.0	00			0.000	'
Remarks:															
Total Cost				0.000)	2.440		0.	.000	0.0	00			2.440)
Remarks: This program	n has no support costs	i.					Itom No	100							

CLASSIFICATION:

EXHIBIT R4, Schedule	e Profile																								DATE	:	Fe	ebrua	ry 20	04		
APPROPRIATION/BUDGE RDT&E, N /	T ACTIVI										ELEME Airborn										PROJ R911											
Fiscal Year		20	02			20	03			20	04			20	05			20	006			20	07			20	80			20	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones Milestones																																
								Ball (Gimbal	l Moun	t	Adva	nced	Camer	а																	
Engineering Milestones																																
Test & Evaluation Milestones																																
Development Test Operational Test																																
Contract Milestones																																

(Exhibit R-4, page 46 of 63)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						I	ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND NA	AME	
RDT&E, N / BA-7	0305206N A	irborne Reconna	aissance Syste	ms	R9115 NRL /	Applied Optics	s Reconnaiss	ance Tech
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Ball Gimbal Mount			2Q/3Q					
Long focal length lens			4Q					
Interchangeable EO and IR			3Q					
High frame rate camera			4Q					
Advanced Camera			4Q					

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Feb	oruary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMI	ENT NUMBER AND	O NAME		PROJECT NUMBI	ER AND NAME		
RDT&E, BA-7	0305206N Airborn	e Reconnaissance	Systems		R9437 Deployable	Unmanned Sys fo	r Targeting, Exploita	ation, and Reconn (DUSTER)
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		0.000	* 5.142					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

There are two primary objectives for the Advanced Technology funding: (1) to evaluate the utility and maturity of technology for airborne reconnaissance applications and (2) to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations (ACTDs), by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the Integrated Airborne Reconnaissance Strategy (IARS). These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan (ARTPP), published in November 1994. Transition of sensors to AF TARS, and Navy TARPS-CD and SHARP programs has been successful. Congress added funds in FY 2001 to (1) develop and Advanced Focal Plane Array for smaller electro-optical framing size, (2) develop and upgrade the Sensor to and 18 inch lens and integrate an existing dual banned sensor into the TARP pod, and (3) to upgrade the Airborne Reconnaissance System Hyperspectral Module.

R-1 SHOPPING LIST - Item No.

^{*}The FY2004 includes Congressional adds reflecting Deployable Unmanned Aerial Vehicle (UAV) System for Targeting Exploitation and Reconnaissance (DUSTER) (\$5.142 million) which will be executed under R9437.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	ÎAME
RDT&E, N / BA-7	0305206N Airborne Reconnaissance Systems	R9437 Deployable Unmanne	ed Sys for Targeting, Exploitation, and Reconn (DUSTER)
	•	•	

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	5.142	0.000
RDT&E Articles Quantity			

Plans are to integrate newly developed technologies in the areas of real-time reconnaissance, imagery processing/exploitation, avionics, and control stations with command and control and imagery exploitation capabilities onto a single long-range airborne capability suitable for UAV's.

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AN	
RDT&E, N / BA-7	0305206N Airborne Reconnaissance Systems	F	R9437 Deployable Unma	anned Sys for Targeting, Exploitation, and Reconn (DUSTER)
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2003	FY 2004	FY 2005	
Previous President's Budget:	0.000	0.000	0.000	
Current BES/President's Budget	0.000	5.142	0.000	
Total Adjustments	0.000	5.142	0.000	
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions				
Congressional rescissions				
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Other Adjustments				
Reprioritization of requirements	0.000	- 440		
Congressional increases Subtotal	0.000	5.142	0.000	
Subtotal	0.000	5.142	0.000	
(U) Schedule:				
• •				
Not Applicable.				
(U) Technical:				
Not Applicable				
	P-1 SHOPPING LIST - It		100	

CLASSIFICATION:

(HIBIT R-2a, RDT&	E Project Justification								DATE:		
	•									Februa	ry 2004
PROPRIATION/BUDGE			PROGRAM EI	EMENT NUM	BER AND NAM	ΛE	PROJECT NU	IMBER AND N	AME		
DT&E, N /	BA-5		0305206N Air	borne Reconn	aissance Syste	ems	R9437 Deploy	able Unmanne	ed Sys for Targ	eting, Exploitation	n, and Reconn (DUST
(U) D. OTHER PRO	OGRAM FUNDING SUMMARY:										
Line Item No. & N	lame_	_	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>
PE 0305207N,	DARP, Special Project A/C		29.335	10.649	10.939	11.410	11.589			11.764	85.686
(U) E. ACQUISITION	STRATEGY:										
	s to develop framing reconnaissance	camera te	chnology to sup	port improved	capabilities for	programs suc	h as SHARP.				
1 13	, J					7 - 5					

CLASSIFICATION:

										DATE:				
Exhibit R-3 Cost A	nalysis (pag	ge 1)										February 2	2004	I
APPROPRIATION/BL	JDGET ACTIV	ITY		PROGRAM I	ELEMENT			PROJECT NU	JMBER AND	NAME				
RDT&E, N /	BA-7			0305206N	Airborne Red	connaissance	Advanced Deve	lop R9437 Deploy	able Unmanr	ned Sys for Ta	argeting, Explo	itation, and Reconr	า (DUSTER)	
Cost Categories		Contract	Performing	•	Total		FY 03		FY 04		FY 05			
-		Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
		& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Reconnaissance Syst	em for UAV	C/CPFF	TBD					4.742	05/04				4.74	2 4.742
														_
														_
		-			-				-			+		-
		+												+
					-						+			
														+
					+					+				+
														+
												+		+
Subtotal Product Deve	opment							4.742	!				4.74	2 4.742
Remarks:														

CLASSIFICATION:

											1						
											DATE:						
Exhibit R-3 Cost Ana	alysis (page 2)												Februar	y 200)4		
APPROPRIATION/BUD			PROGRAM I							NUMBER AN							
RDT&E, N /	BA-7		0305206N		Recon	naissar			elop R9437 Dep		anned Sys for		oitation, and Rec	onn (D	USTER)		
Cost Categories	Contract	Performing	•	Total				FY 03		FY 04		FY 05					1
	Method	Activity &		PY s		FY 03		Award	FY 04	Award	FY 05	Award	Cost to		Total		Target Value
	& Type	Location		Cost		Cost		Date	Cost	Date	Cost	Date	Complete		Cost		of Contract
Camera test support	WR	NRL, Wash,	DC		0.000		0.000		0.4	00 02/04	4			0.000	C	.400	0.000
																	
Subtotal T&E					0.000		0.000		0.4	-00				0.000	C	.400	0.000
Remarks:																	
Remarks:																	
															1 0	.000	0.000
																.000	0.000
																	<u> </u>
																	<u> </u>
																	
Subtotal Management					0.000		0.000				(0.000			C	.000	·
Remarks:																	
Total Cost					0.000		0.000		5.1	42	(0.000			5	.142	4.742
Domorko, Thio program	n haa na ayanart aaat	•															
Remarks: This prograr	n nas no support cosi	S.															

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE	:	F	ebrua	ry 20	04		
APPROPRIATION/BUDGET RDT&E, N /	ACTIVI BA-7													R AND						PRO.						Targe	tina E	voloita	tion o	nd Do	onn (F	NIETE
Fiscal Year	DA-1	20	002			20	03		03032	20		ie ivec	Officials	20		113		20	006	11343	ГВері	20		anneu	J 101	200		хріопа	tion, ai	20		J001L
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones Milestones																																
											^																					
Engineering Milestones															Re Sy	conna stem f	issanc or UA\	e /														
										<u>-</u>																						
Test & Evaluation Milestones																																
Development Test Operational Test																																
Contract Milestones																																

R-1 SHOPPING LIST - Item No.

199

Exhibit R-4, Schedule Profile (Exhibit R-4, page 54 of 63)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
,							F	ebruary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND N		
RDT&E, N / BA-7	0305206N Aii	rborne Reconna	aissance Syste	ems	R9437 Deploy			geting, Exploitation, and Reconn (DUSTER
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Commence Reconnaissance System for UAV			3Q					
Complete Reconnaissance System for UAV				2Q				

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
·							Feb	ruary 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AN	D NAME		PROJECT NUMBI	ER AND NAME		
RDT&E, BA-7	0305206N Airborr	ne Reconnaissance	Systems		R9438 Multi-spect	ral glass windows	for Airborne Reconi	naissance Podded Sensors
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		0.000	2.225					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

There are two primary objectives for the Advanced Technology funding: (1) to evaluate the utility and maturity of technology for airborne reconnaissance applications and (2) to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations (ACTDs), by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the Integrated Airborne Reconnaissance Strategy (IARS). These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan (ARTPP), published in November 1994. Transition of sensors to AF TARS, and Navy TARPS-CD and SHARP programs has been successful. Congress added funds in FY 2001 to (1) develop and Advanced Focal Plane Array for smaller electro-optical framing size, (2) develop and upgrade the Sensor to and 18 inch lens and integrate an existing dual banned sensor into the TARP pod, and (3) to upgrade the Airborne Reconnaissance System Hyperspectral Module.

R-1 SHOPPING LIST - Item No.

^{*}The FY2004 includes Congressional adds reflecting Multi-Spectral Glass Windows for Airborne Reconnaissance Podded Sensors (\$2.225 million) which will be executed under R9438.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	on		DATE:				
			February 2	2004			
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME					
DTOE N / DA 7	020520CNL Airbarra Danamaianana Custama	R9438 Multi-spectral glass windows for Airborne Reconnaissance Podded Sens					
J) B. Accomplishments/Planned Program	0305206N Airborne Reconnaissance Systems	R9450 Multi-spectial glass w	illidows for Allbottle Neconinaissan	ce rodded Sensois			
•	U3U3206N Airborne Reconnaissance Systems FY 03	FY 04	FY 05	ce Fouded Sensons			
,	,			Le rouved Sellsois			

R-1 SHOPPING LIST - Item No.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:
				February 2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AN	
RDT&E, N / BA-7	0305206N Airborne Reconnaissance Systems		R9438 Multi-spectral gla	ss windows for Airborne Reconnaissance Podded Sensors
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2003	FY 2004	FY 2005	
Previous President's Budget:	0.000	0.000		
Current BES/President's Budget	0.000	2.225		
Total Adjustments	0.000	2.225		
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions				
Congressional rescissions				
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Other Adjustments				
Reprioritization of requirements				
Congressional increases	0.000	2.225		
Subtotal	0.000	2.225	0.000	
(U) Schedule:				
Not Applicable.				
(U) Technical:				
Not Applicable				
	R-1 SHOPPING LIST - It	em No	199	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2004			
											PPROPRIATION/BUDGET ACTIVITY
DT&E, N /	BA-5	0305206N Air	0305206N Airborne Reconnaissance Systems				R9438 Multi-spectral glass windows for Airborne Reconnaissance Podded Sensors				
(U) D. OTHER PRO	OGRAM FUNDING SUMMARY:								_	T	
Line Item No. & N	Name_	<u>FY 2003</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>	
PE 0305207N,	, DARP, Special Project A/C	29.335	10.649	10.939	11.410	11.589			11.764	85.686	
(U) E. ACQUISITION											
The program is	s to develop framing reconnaissance ca	amera technology to sup	port improved	capabilities for	programs suc	ch as SHARP.					

CLASSIFICATION:

										DATE:						
Exhibit R-3 Cost Ana	alysis (page	e 1)						February 2004								
APPROPRIATION/BUDG	GET ACTIVIT	ſΥ		PROGRAM E	LEMENT			PROJECT NU	JMBER AND N	VAME						
RDT&E, N /	BA-7			0305206N	Airborne Recor	nnaissance Adv	vanced Develor	R9438 Multi-s	R9438 Multi-spectral glass windows for Airborne Reconnaissance Podded Sensors							
Cost Categories		Contract	Performing	_1	Total	T	FY 03		FY 04	T	FY 05	1				
		Method	Activity &		PY s	FY 03		FY 04		FY 05	Award	Cost to	Total	Target Value		
			Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete		of Contract		
Optical Quality Windows	,	C/CPFF	TBD					1.975	05/04				1.975	1.975		
		<u> </u>														
		ļ														
		ļ														
					<u> </u>	<u> </u>	<u> </u>		<u> </u>					<u> </u>		
		<u> </u>			_	4			 					<u> </u>		
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		<u> </u>	+		 	+	+			+	+	+		<u> </u>		
		 	+		+	+	+	+	+	+	+	+	+	 		
		 	+		+	+	+	+	 	+	+	+	+			
		 	+		+	+	+	+	 	+	+	+	 	<u> </u>		
		 	+		+	+	+	+	+	+	+	+	+	1		
		 	+		+	+	+	+	+	+	+	+	+	 		
			+		+	+	+	+	+	+	+	+		 		
		†	†		†	†	†	†	†	†	†	†	1	1		
			†		+	+	†	†	†	+	†	†	1	†		
Subtotal Product Develop	ment							1.975	i	1			1.975	1.975		
•		•			-	-	-			-		-				
Remarks:																
rtemants.																

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Ana	alysis (page 2)										February 200	04	
APPROPRIATION/BUD			PROGRAM				PROJECT NU						
RDT&E, N /	BA-7		0305206N		nnaissance		lop R9438 Multi-s		windows for A		nnaissance Podded Se	ensors	
Cost Categories	Contra Method	Activity &		Total PY s	FY 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
Comerc toot ournert	& Type WR	Location NRL, Wash,	DC	Cost 0.000	Cost	Date 000	Cost 0.250	Date 02/04	Cost	Date	Complete 0.000	Cost 0.250	of Contract 0.000
Camera test support	WK	INRL, Wash,	DC	0.000	0.	000	0.250	02/04			0.000	0.250	0.000
Subtotal T&E				0.000	0	.000	0.250)			0.000	0.250	0.000
Remarks:													
												0.000	0.000
												0.000	0.000
Subtotal Management				0.000	0	.000			0.0	000		0.000	
Remarks:													
Total Cost				0.000	0	.000	2.225	5	0.0	000		2.225	1.975
Remarks: This prograr	m has no support co	sts.				OT Kees No	400						

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE	:	Fe	brua	ry 20	04		
APPROPRIATION/BUDGE RDT&E, N /	T ACTIV BA- 7													ER AND							PROJECT NUMBER AND NAME R9438 Multi-spectral glass windows for Airborne Reconnaissance Podded Sensors											
Fiscal Year	2002 2003 'ear					20	04			20	05			20	006			20	07		2008 2009											
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones Milestones																																
Engineering											_				Oi	otical C	Quality															
Engineering Milestones										_					Re	conna	issand	е														
Test & Evaluation Milestones																																
Development Test Operational Test																																
Contract Milestones																																

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Exhibit R-4, Schedule Profile (Exhibit R-4, page 62 of 63)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:				
						February 2004				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND N	AME	-		
RDT&E, N / BA-7	0305206N Air	rborne Reconna	aissance Syste	ems	R9438 Multi-s	pectral glass w	indows for Air	borne Reconnaissance Podded Sensors		
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		
Commence Optical Quality Reconnaissance Windows			3Q							
Complete Optical Quality Reconnaissance Windows				2Q						

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, I	RDT&E Budget Item Justification						DATE:	
	-						Februar	ry 2004
	V/BUDGET ACTIVITY				R-1 ITEM NOMEN	CLATURE		
RESEARCH D	EVELOPMENT TEST & EVALUATION	DN, NAVY / BA-7			0305207N Manne	ed Reconnaissance	Systems	
	COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		22.505	16.521	20.203	23.162	23.445	23.944	24.432
Z0117*	REEF POINT	8.096	11.748	20.203	23.162	23.445	23.944	24.432
E2673	F/A-18E/F TACTICAL RECONNAISSANCE (SHARP)	14.409	3.784					
H9439**	ADVANCED AIRCRAFT COLLECTION SYSTEM		0.989					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Provides funds for the development of a dual-spectral-band reconnaissance pod camera system capable of being deployed on tactical aircraft. The camera will have simultaneous visible and infrared imaging capability and provide digital images in national standard formats. The system will be capable of collecting imagery, recording on-board, and transmitting simultaneously to a ground receiving station. Cameras operating in multiple spectral bands will be introduced as the technology evolves. The target aircraft is the F/A-18E/F. A prototype system was flight demonstrated in June 2001. Provision will be made to accommodate transmission of Synthetic Aperture Radar (SAR) data. The system will operate semi-autonomously from the aircraft maximizing standard interfaces. Emphasis will be placed on using commercially available subsystems and components in an open architecture so that evolutionary designs in cameras, processors, transmitters, and recorders can be introduced seamlessly via competitive procurement procedures. An aggressive development schedule will be embraced driving toward an operational capability by Feb 2003. The purpose of the aggressive development schedule is to have an operational capability ready to replace the F-14 Tactical Air Reconnaissance Pod System (TARPS) due to retire beginning in 2003.

(U) Details for project Z0117 are held at a higher classification.

*Executed at a higher level of classification (no project R-2 exhibits). Project unit changed from R0117 to Z0117.

**Executed at a higher level of classification (no project R-2 exhibits).

R-1 SHOPPING LIST - Item No.

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UNCLASSIFIED Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 14)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:						
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	ER AND NAME		
RDT&E, N / BA-7	sance (SHARP)							
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	** 14.409	3.784						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Shared Reconnaissance Pod (SHARP) provides funds for the development of a dual-spectral-band reconnaissance pod camera system capable of being deployed on tactical aircraft. The camera will have simultaneous visible and infrared imaging capability and provide digital images in national standard formats. The system will be capable of collecting imagery, recording on-board, and transmitting simultaneously to a ground receiving station. Cameras operating in multiple spectral bands will be introduced as the technology evolves. The target aircraft is the F/A-18E/F. A prototype system was flight demonstrated in June 2001. Provision will be made to accommodate transmission of Synthetic Aperture Radar (SAR) data. The system will operate semi-autonomously from the aircraft maximizing standard interfaces. Emphasis will be placed on using commercially available subsystems and components in an open architecture so that evolutionary designs in cameras, processors, transmitters, and recorders can be introduced seamlessly via competitive procurement procedures. An aggressive development schedule will be embraced driving toward an operational capability by Feb 2003.

In the FY2003 President's budget, Congress added \$11.9M for development and integration of a solid state recorder in Advance Tactical Airbone Reconnaisance System (ATARS). This development is fully funded with this Congressional Add.

R-1 SHOPPING LIST - Item N

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^{**}The FY 2003 budget reflects an \$11.9 million dollar Congressional add for F/A-18D Tactical Reconnaissance Aircraft Solid State Recorder Upgrades.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Pr	oject Justification				DATE:	
						February 2004
PPROPRIATION/BUDGET ACT	VITY	PROGRAM ELEMENT NUI	MBER AND NAME	PROJECT NUMBER AND	NAME	
DT&E, N / BA-7		0305207N Manned Recor	naissance Systems	E2673 F/A-18E/F Tactica	l Reconnaissance (SHAI	RP)
I) D. A	.l. D					
J) B. Accomplishments/Planne	a Program					
			FY 03	FY 04	FY 05	
Accomplishments/Effort/Subt	otal Cost		0.231	0.240		
RDT&E Articles Quantity						
Cartinus and annual and an annual		alamanant autivitiaa alvuina tha F	IMD whose of the was area			
Continue program managem	ent to coordinate dev	elopment activities during the E	EMD phase of the program	1.		
			FY 03	FY 04	FY 05	
Accomplishments/Effort/Subt	otal Cost			2.000		
RDT&E Articles Quantity						
Communicated Add for divital						
Congressional Add for digital	snutter development.					
			FY 03	FY 04	FY 05	
Accomplishments/Effort/Subto	otal Cost		2.235			
RDT&E Articles Quantity						
Continue testing and integrat	on of SHARP into the	F/A-18F/F SCS.				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	tion		DATE:	
			February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	JAME	
RDT&E, N / BA-7	0305207N Manned Reconnaissance Systems	E2673 F/A-18E/F Tactical	Reconnaissance (SHARP)	
(II) B. Assessa listance to (Discuss d Business				
(U) B. Accomplishments/Planned Program				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		0.993		
RDT&E Articles Quantity				
Coffee development				
Software development.				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		0.151		
RDT&E Articles Quantity				
Complete ancillary hardware development/EM	D ungrades			1
Complete anchiary hardware development/Livi	D upgrades.			
				J
A	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	11.543			
RDT&E Articles Quantity				
Develop and intergrate solid state recorder in	ATARC			1
Develop and intergrate solid state recorder in	ATARS.			
				j

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	n		DATE:	
			February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	NAME	
RDT&E, N / BA-7	0305207N Manned Reconnaissance Systems	E2673 F/A-18E/F Tactical	Reconnaissance (SHARP)	
(U) B. Accomplishments/Planned Program				
O) B. Accomplishments/Flanned Frogram				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost	0.400	0.400		
RDT&E Articles Quantity				
Perform Operational Testing.				
one eperational rectang.				
	5)/00			
Accomplishments/Effort/Subtotal Cost	FY 03	FY 04	FY 05	
RDT&E Articles Quantity				
THE THE THRONG QUARMAY				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:
				February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER	AND NAME	PROJECT NUMBER AND NA	AME
RDT&E, N / BA-7	0305207N Manned Reconnaissa	ince Systems	E2673 F/A-18E/F Tactical R	econnaissance (SHARP)
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding: Previous President's Budget: Current BES/President's Budget Total Adjustments	FY 2003 14.414 14.409 -0.005	FY 2004 1.827 3.784 1.957		
Summary of Adjustments Congressional program reductions Congressional undistributed reductions Congressional rescissions SBIR/STTR Transfer Economic Assumptions	s	-0.043		
Reprogrammings Reprioritization Congressional increases	-0.005	2.000		
Subtotal	-0.005	1.957		
(U) Schedule: SHARP: OT-IIC OPEVAL has moved to third a ATARS DSS: Development completion was de				
(U) Technical: Not Applicable.				
	D 1 CHODD	ING LIST - Item N	lo 200	

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NA	AME
RDT&E, N / BA-7	0305207N Manned Reconnaissance Systems	E2673 F/A-18E/F Tactical R	Reconnaissance (SHARP)

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>
P-1 LINE ITEM 3-F/A-18E/F (FIGHTER) HORNET (MYP) APN-1/ BLI 014500 Weapons System Cost	65.299	69.300	0.000	0.000	0.000	0.000	0.000	0.000	134.599

(U) E. ACQUISITION STRATEGY:

- 1. The pod was procured with an order on a Cost Plus Fixed-Fee (CPFF)/IDIQ contract to Raytheon, Indianapolis.
- 2. The contract for the sensor, a Firm Fixed Price (FFP) option, and the engineering ILS support, a Cost Plus Incentive Fee (CPIF) option, are/will be procured competitively.
- 3. Integration of the "off-the-shelf" solid state recorder onto USMC F/A-18Ds will be accomplished within this project through a sole source contract to BAE. Due to the value of the equipment, no OPEVAL will be required and the change will be incorporated prior to retrofit procurement.

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	e 1)										February	2004	
APPROPRIATION/BUDGET ACTIV	ITY		OGRAM E				PROJECT NU						
RDT&E, N / BA-7			5207N M	lanned Reconn	aissance Syste		E2673 F/A-1		Reconnaiss				
Cost Categories	Method	Performing Activity & Location			FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to	Total Cost	Target Value of Contract
Primary HW Dev POD Prototype		Raytheon, Indiana	nolie IN	14.373		Date	COSt	Date	0031	Bate	Complete	14.373	
Ancillary HW Dev Sensor Prototype		VARIOUS	polis, liv	2.507								2.507	
Ancillary HW Dev RMS Prototype	C/Plus	Space Dyn Lab, L	ogan , UT	3.500								3.500	
Ancillary HW Dev Prototype	WX	NRL, Washington, D		4.050			2.000	04/04				6.050	
Primary HW Dev POD EMD	SS/FP-LOE	Raytheon, Indianapo	olis, IN	39.718								39.718	39.718
Ancillary HW Dev Sensor EMD	FFP/CPIF	Recon Optical, Barri	ington, IL	17.841								17.841	17.841
Ancillary HW Dev Datalink EMD	PD	SPAWAR, San Dieg	jo, CA	0.778								0.778	
Ancillary HW Dev / EMD Upgrades	WX	VARIOUS					0.151	11/03				0.151	
Primary HW Dev ATARS	SS/CPFF	BAE, NY			9.500	01/04						9.500	9.500
		,											
Subtotal Product Development				82.767	9.500		2.151	<u> </u>				94.418	
Remarks:													
					DINIO LIOT								

CLASSIFICATION:

										DATE:				
Exhibit R-3 Cost Analysis (p	age 1)											February	2004	
APPROPRIATION/BUDGET ACT	TIVITY		PROGRAM I	ELEMENT				PROJECT N	UMBER AND	NAME				
RDT&E, N / BA-7			0305207N	Manned Reco	nnaissan	nce Syste	ems	E2673 F/A-	18E/F Tactical	Reconnaiss	ance (SHARP)			
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	3	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development Support	WX	VARIOUS		1.6	60	0.200	11/02	0.20	11/03				2.06	0
Software Development Prototype	WX	NRL, Washingt	on, DC	8.5	09								8.50	9
Software Development /RMS	WX	NAWCWD, Ch	ina Lake, CA	16.7	56	2.235	11/02	0.99	3 11/03				19.98	4
Software Development /OFP	WX	NAWCWD, Ch	ina Lake, CA	8.8	31								8.83	1
Integrated Logistics Support	WX	NAWCAD, Lak	ehurst, NJ	2.4	74								2.47	4
Development Support(ATARS)	WX	VARIOUS				2.043	06/03						2.04	3
														+
														+
		1												_
Subtotal Support				38.2	30	4.478	8	1.19	3				43.90	1
Remarks:														

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (p	age 2)									February 2	2004	
APPROPRIATION/BUDGET ACT	IVITY	PROGRAM				PROJECT NU						
RDT&E, N / BA-7			ement (PE) No. a	nd Name		0305207N M		naissance S				_
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation		S VARIOUS	17.355								17.355	
Operational Test & Evaluation	WR	OPTEVFOR, Norfolk VA	0.033	0.400	11/02	0.400	02/04				0.833	
Subtotal T&E			17.388	0.400		0.400					18.188	
Program Management Support	VARIOUS	VARIOUS	1.829								1.829	
Travel				0.031	10/02	0.040	10/03				0.071	
Subtotal Management			1.829	0.031		0.040					1.900	1
Remarks:												
Total Cost			140.214	14.409		3.784					158.407	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile)																							DATE	≣:	F	ebrua	ary 20	004		
APPROPRIATION/BUDGET		/ITY												R AND											ID NAN				_			
RDT&E, N / BA-7	7				ı				03052	:07N	Manne	ed Rec	onnais	sance	Syster	ns					E2673	8 F/A-	-18E/F	Tacti	cal Red	connai	ssance	(SHA	RP)			
Fiscal Year		20	002			20	03			20	04			200	05			200	06			20	07			20	800			200	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SHARP Acquisition Milestones							oc L				М	\$ III _				ioc																
SHARP System Development						FCA	Pc	A																								
SHARP Prototype & EMD Delivery			Er	MD Po	d Deli	eries	A																									
Software 1XXSW Delivery 2XXSW Delivery				BRR	#1 E	RR #2																										
Test & Evaluation Milestones		DT-IIA			DT-I	В																										
Development Test											ᆸ.	ECHE	VAL																			
Operational Test							ORA						OT-II	C OPE	VAL																	
Production Milestones	LR	RIP 1 (p	od)																													
LRIP I FY 02					LRIF	2 (sys	tem)																									
LRIPII FY 03												FRP	Start																			
FRP FY 04																																
Deliveries					LI		eliveri	es	L	RIP 2	Delive 8	ries					FRP 6	Delive syster														

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						F	ebruary 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&E, N / BA-7	0305207N M	anned Reconn	aissance Syste	ems	E2673 F/A-1	8E/F Tactical R	Reconnaissance	(SHARP)
Schedule Profile for SHARP	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Developmental Testing (DT-IIA)	1Q-4Q							
Software Delivery 1XXSW	4Q							
EMD Pod Deliveries	3Q-4Q	2Q-3Q						
Low-Rate Initial Production I (LRIP I) Decision	1Q							
Software Delivery 2XXSW		2Q						
Developmental Testing (DT-IIB)	3Q-4Q	1Q-4Q	1Q-2Q					
Low-Rate Initial Production II Decision		2Q						
Operational Readiness Assessment (ORA)		1Q-2Q						
Functional Configuration Audit (FCA)		2Q						
Low-Rate Initial Production I Delivery		2Q-3Q						
Technical Evaluation (TECHEVAL)			2Q-3Q					
Physical Configuration Audit		3Q						
Operational Evaluation (OT-IIC) (OPEVAL)			3Q-4Q					
Low-Rate Initail Production II Delivery			2Q-3Q					
EOC		2Q						
IOC				4Q				
Milestone III/FRP				1Q				
Full Rate Contract Award				1Q				
Full Rate Production Deliveries					1Q-4Q			

CLASSIFICATION:

EXHIBIT R4, Schedule	Profile																								DATE	:	-	o b vi i o	20	10.4		
APPROPRIATION/BUDGET	ACTIVI	TV							PROC	2DAM	ELEME	ENIT N	LIMBE	D ANI	NAM	E					PROJ	IECT N	II IMBE	D ANI	D NAM	1F		ebrua	iry Zu	104		
RDT&E, N /	BA-7										Manne																sance	(SHAI	RP)			
Fiscal Year		20	02			20	03			20				20				20	06			20				20				20	09	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ATARS Solid State Recorder Contract Award																																
ntegration/Development																																
Fest & Evaluation Milestones																																
Development Test													DT																			

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						ı	February 20	04
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&E, N /BA-7	0305207N M	anned Reconn	aissance Syste	ems	E2673 F/A-1	8E/F Tactical R	Reconnaissance	e (SHARP)
Schedule Profile for ATARS	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Development Phase			2Q-4Q	1Q-2Q				
Developmental Testing (DT)			4Q	1Q				
Contract Award			2Q					
					1			

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
-						Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	CLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAV	Y / BA-7			0305208N Distribu	ted Common Grou	nd Systems (DCGS	5)
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	8.518	8.818	3.635	3.694	3.762	3.848	3.925
A2174 CIGSS (JSIPS-N)	4.322	4.319	3.635	3.694	3.762	3.848	3.925
A9118 Prec Targeting Sys Modernization							
A9157 Cross Program DCGS-N Integration	2.927						
A9158 Converged Architecture for NFN	1.269						
9440 Enterprise Targeting and Strike System		4.499					
	I I			ı		ı	

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Includes Congressional adds: \$2.8 million in FY 2002 for Precision Targeting System Modernization, less Congressional undistributed reductions; \$1.3 million in FY 2003 for Converged Architecture for Naval Fires Network, less Congressional undistributed reductions; and \$4.5 million in FY 2004 for Enterprise Targeting and Strike System, less Congressional undistributed reductions.

The Joint Service Imagery Processing System-Navy (JSIPS-N) is the Navy's portion of the Distributed Common Ground System (DCGS) which is a cooperative effort between the services, agencies, and DoD to provide systems capable of receiving, processing, exploiting, and disseminating data from airborne and national reconnaissance platforms. DCGS is further subdivided into systems which process, exploit, and disseminate Measurements Analysis and Signatures Intelligence (MASINT) data, Signals Intelligence (SIGINT) data, Multi-intelligence Reconnaissance data, and imagery data. Cooperative imagery processing systems are collectively identified under the general heading of Common Imagery Ground/Surface Systems (CIGSS). JSIPS-N is the Navy CIGSS component. JSIPS-N has the capability to receive, process, exploit, store and disseminate imagery, imagery-derived products and imagery intelligence (IMINT) reports based on multiple inputs from multiple sources.

The primary mission of JSIPS-N is to assist strike planners, tactical aviators, and Marine Corps amphibious planners in the delivery of precision ordnance (including Tomahawk Cruise Missiles) on target. JSIPS-N includes three major components, the Softcopy Exploitation Segment (SES) consisting of the Digital Imagery Workstation Suite Afloat (DIWSA) and the Precision Targeting Workstation (PTW), the National Input Segment (NIS), and the Tactical Input Segment (TIS). JSIPS-N is being installed onboard aircraft carriers (CV/CVN), amphibious assault ships (LHA/LHD), select fleet flagships (AGF/LCC) and shore sites.

Secondary missions of the systems are to provide near-real-time imagery and support to fleet intelligence assets, Special Operations Forces, and to support primary exploitation and dissemination of tactical organic and theater IMINT products.

Cross-system DCGS-N integration in support of Time-Sensitive Targeting has been incorporated into exisiting group modification (GRP MOD) actions comprising the JSIPS-N life cycle modernization plan.

R-1 SHOPPING LIST - Item No.

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UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 15)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0305208N Distribu	ted Common Grour	nd Systems (DCGS)	A2174 CIGSS (JSI	PS-N)		
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		4.322	4.319	3.635	3.694	3.762	3.848	3.92
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Joint Service Imagery Processing System - Navy (JSIPS-N) is the Navy's portion of the Distributed Common Ground

System (DCGS) which is a cooperative effort between the services, agencies, and DoD to provide systems capable of receiving, processing, exploiting, and disseminating data from airborne and national reconnaissance platforms. DCGS is further subdivided into systems which process, exploit, and disseminate Measurements Analysis and Signatures Intelligence (MASINT) data, Signals Intelligence (SIGINT) data, Multi-Intelligence Reconnaissance data, and Imagery data. Cooperative imagery processing systems are collectively identified under the general heading of Common Imagery Ground/Surface Systems (CIGSS). JSIPS-N is the Navy CIGSS component.

JSIPS-N has the capability to receive, process, exploit, store and disseminate imagery, imagery-derived products and imagery intelligence (IMINT) reports based on multiple inputs from multiple sources. The primary mission of JSIPS-N is to assist strike planners, tactical aviators, and Marine Corps amphibious planners in the delivery of precision ordnance (including Tomahawk Cruise Missiles) on target.

JSIPS-N includes three major components, the Softcopy Exploitation Segment (SES) consisting of the Digital Imagery Workstation Suite Afloat (DIWSA) and the Precision Targeting Workstation (PTW), the National Input Segment (NIS), and the Tactical Input Segment (TIS). JSIPS-N is being installed onboard aircraft carriers (CV/CVN), amphibious assault ships (LHA/LHD), select fleet flagships (AGF/LCC) and shore sites.

Secondary missions of the systems are to provide near-real-time imagery and support to fleet intelligence assets, Special Operations Forces, and to support primary exploitation and dissemination of tactical organic and theater IMINT products.

R-1 SHOPPING LIST - Item No.

201

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificat	ion			DATE:	
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AND N		ruary 2004
RDT&E, N / BA-7	0305208N Distributed Comm			, uvic	
DIGE, N / BA-1	0303208N Distributed Commi	on Ground Systems (DCGS	A2174 CIGGS (JSIFG-N)		
B. Accomplishments/Planned Program					
					_
		FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		4.322	4.319	3.635	
RDT&E Articles Quantity					
		FY 03	FY 04	FY 05	7
Accomplishments/Effort/Subtotal Cost					
RDT&E Articles Quantity					

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, page 3 of 15)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND	NAME	
RDT&E, N / BA-7	0305208N Distributed Common Ground Systems	(DCGS)	A2174 CIGSS (JSIPS-N)		
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	4.322	4.421			
Current BES/President's Budget	4.322	4.319			
Total Adjustments	0.000	-0.102	-0.012		
Summary of Adjustments Congressional program reductions Congressional undistributed reductions Congressional rescissions SBIR/STTR Transfer Economic Assumptions		-0.102	-0.012		
Reprioritization Other Navy/OSD Adjustments Congressional increases Subtotal		-0.102			
Schedule:					
Not Applicable.					
Technical:					
Not Applicable.	D.4. CHODDING LIGT.		204		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E	Project Justification							DATE:	Februs	ary 2004	
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM EL	EMENT NUM	BER AND NAM	1E	PROJECT NU	MBER AND N	L AME	1 051 0	ui y 2004	
RDT&E, N /	BA-7	0305208N Dist	_								
RDTQL, IV	DA I	03032001 1 Disti	induced Collin	ion Ground by	sterris (DOGO)	A2174 01000	(5511 5-14)				
D. OTHER PROGRA	M FUNDING SUMMARY:								То	Total	
Line Item No. & Nar OPN, BLI 291400 Co Support/Systems (CIO	mmon Imagery Ground	<u>FY 2003</u> 51.157	<u>FY 2004</u> 40.288	FY 2005 53.173	<u>FY 2006</u> 16.095	<u>FY 2007</u> 74.254	<u>FY 2008</u> 117.274	<u>FY 2009</u> 61.782	Complete Continuing	Cost Continuing	
E. ACQUISITION STRA	TEGY: *										
Workstation (PTV planning systems acquired from the	vstem consists of three elements, the V), the National Input Segment (NIS). The NIS is also in full rate product Air Force Electronic Systems Center for the Navy system is the Space a	and Tactical Input Section and supplied as Go er (ESC) at Hanscom A	gment (TIS). overnment Fur IFB. The TIS	The DIWSA is a rnished Equipm includes a Con	already in full lent (GFE) by	rate co-producti the National Ima	on with other pagery and Map	orograms, mos oping Agency (st notably Tomah NIMA SDD). Th	awk's mission e TIS is	
F. MAJOR PERFORME	RS: **										

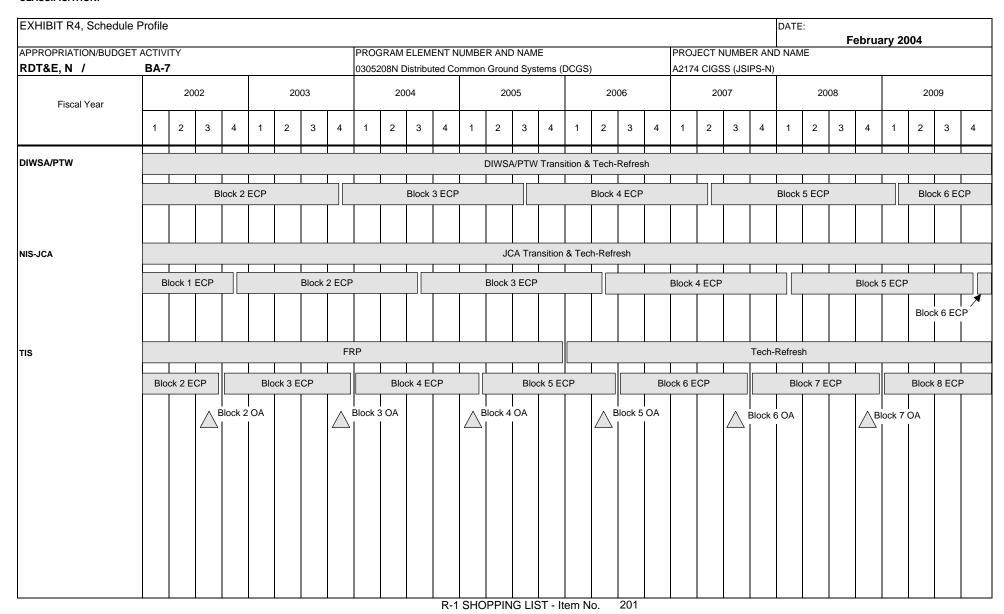
CLASSIFICATION:

									DATE:					
Exhibit R-3 Cost Analysis (pa	ge 1)						February 2004							
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E	LEMENT			PROJECT N	JMBER AND	NAME					
RDT&E, N / BA-7			0305208N Dis	stributed Comm	on Ground Sys		A2174 CIGSS							
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			_	
	Method & Type	Activity & Location		PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	or Contract	
Ancillary Hardware Development														
Aircraft Integration														
Ship Integration														
Ship Suitability														
Systems Engineering														
Training Development														
Licenses														
Tooling														
GFE														
Award Fees														
Subtotal Product Development				0.000	0.000		0.000	D	0.000)	0.000	0.000		
Development Support														
Software Development	MIPR	Various		18.514	4.322	11/02	4.319	11/03	3.635	11/04	Continuing	Continuing		
Integrated Logistics Support														
Configuration Management														
Technical Data														
Studies & Analyses														
GFE														
Award Fees														
Subtotal Support				18.514	4.322		4.319	9	3.635	5	Continuing	Continuing		
Remarks:														
				R-1 SHOP	PING LIST :	- Item No	201							

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (page 1)		1				T===				February 20	04	
APPROPRIATION/BUDGET ACTIV	/ITY		1 ELEMENT			PROJECT N						
RDT&E, N / BA-7	lo , ,		Distributed Comn	non Ground Sy		A2174 CIGSS			IEV 05	1	1	т
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	COMOPTEVFOR, VA	0.375							•	0.375	
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.375	0.000)	0.000)	0.00	0		0.375	5
	_					_						
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel												
Transportation												
SBIR Assessment												_
Subtotal Management			0.000	0.000)	0.000)	0.00	0	0.000	0.000)
Remarks:												
Total Cost			18.889	9 4.322	2	4.319	9	3.63	5	Continuing	Continuing	<u></u>
Remarks:												

CLASSIFICATION:



^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2004			
ADDDODDIATION/DUDOFT ACTIVITY	IDDOODAME	LENZENIE			IDDO IDOT NII			U 4	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E					IMBER AND N	AIVIE		
RDT&E, N / BA-7		tributed Comm				(JSIPS-N)	-		
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
DIWSA/PTW Transition & Tech-Refresh	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Block 2 (V4.1) ECP	1Q-4Q	1Q-4Q							
Block 3 (V4.2) ECP		4Q	1Q-4Q	1Q-3Q					
Block 4 (V4.X) ECP				3Q-4Q	1Q-4Q	1Q-2Q			
Block 5 (V4.X) ECP						2Q-4Q	1Q-4Q	1Q	
Block 6 (V4.X) ECP								1Q-4Q	
NIS-JCA Transition & Tech-Refresh	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Block 1 ECP	1Q-4Q								
Block 2 ECP	4Q	1Q-4Q	1Q-3Q						
Block 3 ECP			3Q-4Q	1Q-4Q	1Q-2Q				
Block 4 ECP					2Q-4Q	1Q-4Q	1Q		
Block 5 ECP							1Q-4Q	1Q-4Q	
Block 6 ECP								4Q	
TIS Baseline Full Rate Production	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				-	
Tech Refresh			-, -,		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Block 2 ECP	1Q-3Q								
Block 2 OA	3Q								
Block 3 ECP	4Q	1Q-4Q							
Block 3 OA		4Q							
Block 4 ECP			1Q-4Q	1Q					
Block 4 OA			-, -,	1Q					
Block 5 ECP				1Q-4Q	1Q-2Q				
Block 5 OA					2Q				
Block 6 ECP					3Q-4Q	1Q-3Q			
Block 6 OA						3Q			
Block 7 ECP						4Q	1Q-4Q		
Block 7 OA							4Q		
Block 8 ECP								1Q-4Q	
		 							
		1							
		 							
<u>L</u>				201	<u>l</u>	<u> </u>	<u> </u>		

R-1 SHOPPING LIST - Item No.

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UNCLASSIFIED

Exhibit R-4a, Schedule Detail (Exhibit R-4a, page 9 of 15)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:					
							Februa	ry 2004				
APPROPRIATION/BUDGET ACTIVITY												
RDT&E, N / BA-7	0305208N Distribu	ted Common Grou	Targeting and Str	nd Strike System								
COST (\$ in Millions)	FY 2003	FY 2008	FY 2009	FY								
Project Cost		4.499										
RDT&E Articles Qty												

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Development of JSIPS-N open/converged architecture for Naval Fires Network (I	NFN) to allow for multiple service participation.	The Congressional plus up of \$1.269M in	FY03 has been provided for
development of an open/converged architecture, modernization and enhancement of p	precision strike capabilities for NFN.		

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificat	ion		DATE: February 2	2004
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N		
DT&E, N / BA-7	0305208N Distributed Common Ground Systems	(DCGS 9440 Enterprise Targeting	g and Strike System	
B. Accomplishments/Planned Program			-	
s. Accomplishments/Flanned Frogram				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost		4.499		
RDT&E Articles Quantity				
Development of an open grabitecture, moderni	zation and enhancement of precision strike capabilities fo	or NICNI		
Development of an open architecture, moderni	zation and enhancement of precision strike capabilities to	DI INFIN.		
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
	FY 03	FY 04	FY 05	
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
-				

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

HIBIT R-2a, RDT&E Project Justification				DATE:	
			T		February 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND		
DT&E, N / BA-7	0305208N Distributed Common Ground Systems	(DCGS)	9440 Enterprise Target	ing and Strike System	
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:		0.000			
Current BES/President's Budget		4.499)		
Total Adjustments	0.000	4.499	0.000		
Summary of Adjustments					
Congressional undistributed reductions		-0.051			
Congressional increases					
SBIR/STTR Transfer					
Economic Assumtions					
Reprioitization		4.550)		
Reprogrammings					
Subtotal					
	0.000	4.499	0.000		
Schedule:					
Not Applicable.					
Technical:					
Not Applicable.					
ног Аррисавіе.					

CLASSIFICATION:

EXHIBIT R-2a, RDT&E	Project Justification							DATE:	Febru	ary 2004
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM E	LEMENT NUM	BER AND NAM	ИE	PROJECT NU	JMBER AND N	AME	i ebiu	ary 2004
RDT&E, N /	BA-7			non Ground Sys					System	
•	M FUNDING SUMMARY:					, , , , , , ,	3 3 3 3	,	-	
Line Item No. & Nar	mo	EV 2002	EV 2004	EV 2005	EV 2006	EV 2007	EV 2000	EV 2000	To Complete	Total
OPN, BLI 291400 Co Support/Systems (CIO	mmon Imagery Ground	<u>FY 2003</u> 51.157	FY 2004 40.288	<u>FY 2005</u> 53.173	<u>FY 2006</u> 16.095	<u>FY 2007</u> 74.254	<u>FY 2008</u> 117.274	<u>FY 2009</u> 61.782	<u>Complete</u> Continuing	<u>Cost</u> Continuing
E. ACQUISITION STRA	NTEGY: *									
F. MAJOR PERFORME	ERS: **									

CLASSIFICATION:

									DATE:					
Exhibit R-3 Cost Analysis (pa	ge 1)						February 2004							
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM E	LEMENT			PROJECT NU	JMBER AND I	NAME					
RDT&E, N / BA-7			0305208N Dis	stributed Comm	on Ground Sys		9440 Enterpri		and Strike Syste					
Cost Categories	Contract	Performing		Total	E) (00	FY 03	E) (0 4	FY 04	E) / 05	FY 05	0 11	-		
	Method & Type	Activity & Location		PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development	а туре	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	or Contract	
Ancillary Hardware Development														
Aircraft Integration														
Ship Integration														
Ship Suitability														
Systems Engineering														
Training Development														
Licenses														
Tooling														
GFE														
Award Fees														
Subtotal Product Development				0.000	0.000		0.000	D	0.000		0.000	0.000		
Development Support														
Software Development	MIPR	Various					4.499	11/04						
Integrated Logistics Support														
Configuration Management														
Technical Data														
Studies & Analyses														
GFE														
Award Fees														
Subtotal Support				0.000	0.000		4.499	9	0.000					
Remarks:														
				R-1 SHOE	PPING LIST :	- Item No	201							

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (page	ge 2)										February 20	04	
APPROPRIATION/BUDGET ACTIV	/ITY		PROGRAM EI				PROJECT N		NAME				
RDT&E, N / BA-7	1.				non Ground Sy		A9158 CIGSS			1	1		-
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												0.000	
Operational Test & Evaluation													
Live Fire Test & Evaluation													1
Test Assets													
Tooling													
GFE													
Award Fees													
Subtotal T&E				0.000	0.000		0.000)	0.00	0		0.000	5
						1		1		1			
Contractor Engineering Support													
Government Engineering Support													
Program Management Support													
Travel													
Transportation													
SBIR Assessment													
Subtotal Management				0.000	0.000)	0.000)	0.00	0	0.000	0.000)
Remarks:													
Total Cost				0.000	0.000)	4.499	9				4.499	9
Remarks:													

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:					
								Febru	ıary 2004			
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NO	MENCLATURE						
RESEARCH DEVELOPMENT TEST & EVALUA	TION, NAVY /	BA-7			PE 0305927N	Navy Space	Surveillance System (NSSS)					
	Prior									Total		
COST (\$ in Millions)) i i				FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program		
Total PE Cost	2.635	5.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.652		
Project X0125 Navy Space Surveillance System	2.635	5.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.652		
Quantity of RDT&E Articles												

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Naval Space Surveillance System (FENCE) is an integral component of the U.S. Space Command Surveillance Network. This system provides continuous surveillance and unalerted detection of space objects crossing the continental United States. The FENCE is also the only space surveillance system that provides satellite vulnerability and space control data to the fleet. It is a multistatic continuous wave radar fence consisting of three transmitter sites, six receiver sites, and a computation/communication center. The Alternate Space Control role assigned by U.S. Commander in Chief Space (USCINCSPACE) requires that the Naval Network and Space Command (NNSOC), formerly Naval Space Command, maintain functional equivalence with the USCINCSPACE Space Control Center and receive, process and distribute data from 26 surveillance sites.

The Fence program transfers to US Air Force cognizance effective 2004. (X0125)

(U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under Operational Sytems Development because it encompasses engineering and manufacturing development for upgrading existing operational systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:			
									Febru	uary 2004	
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUMBER AND NAME										
RDT&E, N / BA-7	PE 0305927N	PE 0305927N Navy Space Surveillance System (NSSS) X0125 Navy Space Su						ance System (N	ISSS)		
	Prior										Total
COST (\$ in Millions)	Years Cost		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Program
Project Cost	2.635		5.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.652
RDT&E Articles Qty											0

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project supports the Naval Space Surveillance System (FENCE), an integral component of the J.S. Space Command Space Surveillance Network. This system provides continuous surveillance and unalerted detection of space objects crossing the continental United States. The FENCE is also the only space surveillance system that provides satellite vulnerability and space control data to the fleet. It is a multistatic continuous wave radar fence consisting of three transmitter sites, six receiver sites, and a computation/communication center. The Alternate Space Control role assigned by U.S. Commander in Chief Space (USCINCSPACE) requires that the Naval Network and Space Command (NNSOC), formerly Naval Space Command, maintain functional equivalence with the USCINCSPACE Space Control Center and receive, process and distribute data from 26 surveillance sites. The increase in funding from FY01-FY03 supports this role and the research, design and development of high-powered transmitters and other component parts for the next generation FENCE System.

The Fence program transfers to US Air Force cognizance effective 2004.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE:
	February 2004
APPROPRIATION/BUDGET ACTIVITY	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	X0125 Navy Space Surveillance System (NSSS)

(U) B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	5.017	0.000	0.000
RDT&E Articles Quantity	0	0	0

(U) FY 2003 ACCOMPLISHMENTS: (\$5.017)

(\$.487) Completed development of detailed architecture and design for RF sensors, communications, processing, modeling and simulation. (\$4.530) Developed RF sensor in order to provide a system demonstration prior to Critical Design Review (CDR).

(U) FY 2004 PLAN: Program transferred to U.S. Air Force.

(U) FY 2005 PLAN: N/A

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
						February 2004
	ROGRAM ELEMENT NUMBER			PROJECT NUMBER AND NA		
RDT&E, N / BA-7	E 0305927N Navy Space Surve	eillance System	(NSSS)	X0125 Navy Space Surveilla	ince System (NSSS)	
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:	FY 2003	FY 2004	FY 2005			
President's Budget :	9.548	0.000	0.000			
Current BES/President's Budget	5.017	0.000	0.000			
Total Adjustments	-4.531	0.000	0.000			
Summary of Adjustments						
2001	0.000					
SSGN	-3.999					
SEASNIPER	-0.200					
Section 8100: Business Process Reform						
Section 8135: Economic Assumptions	-0.054					
Section 8109: IT Cost Growth	-0.018					
Section 8029: PL107-248 FY03 FFRDC I	Reduction -0.006					
Miscellaneous Navy Adjustments	0.046					
Miscellaneous Department Adjustments Subtotal	-0.216 -4.531	0.000	0.000			
Subiotal	-4.551	0.000	0.000			
(U) Schedule:						
NOT APPLICABLE						
(U) Technical:						
NOT APPLICABLE						
	R-1 SHOPP	INCLIST I	om No	202		

CLASSIFICATION:

ROPRIATION/BUDGE	T ACTIVITY	PROGRAM EL	EMENT NUMB	ER AND NAMI	E [i	PROJECT NUM	IBER AND NA	ME		uary 2004	
&E, N /	BA-7					X0125 Navy S			SSS)		
	OGRAM FUNDING SUMMARY:			-				-	То	Total	
Line Item No. & N	ame	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	<u>Cost</u>	
(U) OPN Lin	ne #2901	1.992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	
(U) E. ACQUISITION	STRATEGY:										
NOT APPLICA	BLE										

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (p	age 1)										February 200)4	
APPROPRIATION/BUDGET ACT	IVITY		PROGRAM EI	LEMENT			PROJECT N	UMBER AND	NAME				
RDT&E, N / BA-7			PE 0305927N	Navy Space	Surveillance S	ystem (NSSS)	X0125 Navy		eillance System				
Cost Categories	Contract	Performing		Total		FY 03		FY 04		FY 05			
	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
Primary Hardware Development	C/CPAF	TBD		1.20	0 3.20	6 05/03						4.406	
Ancillary Hardware Development		1										0.000	
Aircraft Integration												0.000	1
Ship Integration												0.000	
Ship Suitability												0.000	
Systems Engineering				1.43	5 1.80	0						3.235	
Training Development												0.000	
Licenses												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal Product Development				2.63	5.00	6	0.00	o	0.00	00	0.000		
Development Support												0.000	
Software Development												0.000	
Integrated Logistics Support												0.000	
Configuration Management												0.000	
Technical Data												0.000	
Studies & Analyses												0.000	
GFE												0.000	
Award Fees												0.000	1
Subtotal Support				0.00	0.00	0	0.00	0	0.00	00	0.000		
Gustotal Support				0.00	0.00	<u> </u>	0.00	<u>~1</u>	0.00	,0	0.000	0.000	1
Remarks:													
				R-1 SHC	PPING LIST	- Item No.	202						

Exhibit R-3, Project Cost Analysis (Exhibit R-3, page 6 of 9)

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)										February 200	4	
APPROPRIATION/BUDGET ACTIVI	TY		PROGRAM ELEM				PROJECT N						
RDT&E, N / BA-7		•	PE 0305927N Na		urveillance Sy		X0125 Navy		illance System (I				
Cost Categories	Contract Method	Performing Activity &	Tot PY		FY 03	FY 03 Award	FY 04	FY 04 Award	FY 05	FY 05 Award	Cost to	Total	Target Value
	& Type	Location	Co			Date	Cost	Date	Cost	Date		Cost	of Contract
Developmental Test & Evaluation												0.000	
Operational Test & Evaluation												0.000	
Live Fire Test & Evaluation												0.000	
Test Assets												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal T&E				0.000	0.000		0.000)	0.000		0.000	0.000	
Contractor Engineering Support												0.000	
Government Engineering Support												0.000	
Program Management Support	C/CPAF	TBD			0.011							0.011	
Travel												0.000	
Transportation												0.000	
SBIR Assessment												0.000	
Subtotal Management				0.000	0.011		0.000)	0.000		0.000	0.011	
Remarks:													
Total Cost				2.635	5.017		0.000)	0.000		0.000	7.652	
Remarks:													

CLASSIFICATION:

EXHIBIT R4, Schedule	e Profile																									DATE	:	_	ebrua	rv 20	104		
APPROPRIATION/BUDGE	T ACTIV	ITY								PROC	RAM	ELEM	ENT N	IUMBE	R ANI	D NAM	E					PROJ	ECT N	IUMBE	R AN	D NAN	ЛE		CDIG	y 20	70-7		
RDT&E, N /	BA-7														veillan			ISSS)				X0125						tem (N	ISSS)				
Fiscal Year			002			:	2003				20		,		20			,	20	006			20				20		,		20	09	
	1	2	2 3	3 4	ļ	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																	
Prototype Phase																																	
Radar System Development						PDI	R	¢:	DR																								
Test & Evaluation Milestones Development Test Operational Test									DT 																								
Procurements																																	
Deliveries																																	

^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
							February 2	004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT			PROJECT NU	MBER AND N	AME	
RDT&E, N / BA-7	PE 0305927N	Navy Space S	Surveillance Sys	X0125 Navy	Space Surveilla	ance System (N	ISSS)	
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Milestone B (MSB)								
Contract Preparation								
Preliminary Design Review (PDR)		2Q						
System Development		1Q-4Q						
Critical Design Review (CDR)		4Q						
Preproduction Readiness Review (PRR)								
Milestone C (MS C)								
Functional Configuration Audit (FCA)								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OPEVAL)								
IOC								
First Deployment								

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
						Februai	ry 2004
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN			
RESEARCH DEVELOPMENT TEST & EVALUATION, N	NAVY / BA-7			0307207N Aerial (Common Sensor	T	
COST (\$ in Millions)	FY 2003	*FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		3.955	24.909	49.864	99.783	193.824	74.043
H3015 Aerial Common Sensor		3.955	24.909	49.864	99.783	193.824	74.043

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Provides funding for development of the Navy's Aerial Common Sensor (ACS) involvement in a post-Milestone B joint Army/Navy program. Provides funds for the Navy's unique requirements to the Army's ACS platform. The ACS is the Navy's recapitalization of the the EP-3E and offers a transformational platform to fullfill the Navy and OSD requirements for migration to the Joint Airborne SIGINT Architecture (JASA). Development will be made to integrate additional workstations, ensure connectivity to multi-service platforms and ground stations, procure two ACS test platforms and to develop an initial mission systems spiral that will integrate the Navy's unique maritime SIGINT mission requirements.

* FY 2004 funding was a congressional add in PE 0605152N Studies and Analysis Support for Future SIGINT Requirements/Joint ACS Program. Those funds will be executed in that R-1 line item and used to study the available replacement options and the viability of ACS as a replacement program for the EP-3. Follow on development funding for ACS is budgeted and will be executed in this R-1 line item.

R-1 SHOPPING LIST - Item No.

203

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 1 of 9)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AN	D NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7								
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost				24.909	49.864	99.783	193.824	74.043
RDT&E Articles Qty							2	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Provides funding for development of the Navy's Aerial Common Sensor (ACS) involvement in a post-Milestone B joint Army/Navy program. Provides funds for the Navy's unique requirements to the Army's ACS platform. The ACS is the Navy's recapitalization of the the EP-3E and offers a transformational platform to fullfill the Navy and OSD requirements for migration to the Joint Airborne SIGINT Architecture (JASA). Development will be made to integrate additional workstations, ensure connectivity to multi-service platforms and ground stations, procure two ACS test platforms and to develop an initial mission systems spiral that will integrate the Navy's unique maritime SIGINT mission requirements.

* FY 2004 funding was a congressional add in PE 0605152N Studies and Analysis Support for Future SIGINT Requirements/Joint ACS Program. Those funds will be executed in that R-1 line item and used to study the available replacement options and the viability of ACS as a replacement program for the EP-3. Follow on development funding for ACS is budgeted and will be executed in this R-1 line item.

R-1 SHOPPING LIST - Item No.

203

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AND NA	
RDT&E, N / BA-7	0307207N Aerial Common S	Sensor	H3015 Aerial Common Senso	r
B. Accomplishments/Planned Program				
		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				15.000
RDT&E Articles Quantity				
		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				5.709
RDT&E Articles Quantity	<u> </u>			
Development of a reachback capability and interope	ability to multiservice platforms	and ground stations		
		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				4.200
RDT&E Articles Quantity				
ACS Program management and Engineering supt				

R-1 SHOPPING LIST - Item No. 203

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER ANI	D NAME	
RDT&E, N / BA-7	0307207N Aerial Common Sensor		H3015 Aerial Common S	ensor	
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 2003	FY 2004	FY 2005		
Previous President's Budget:	0.000	0.000			
Current BES/President's Budget	0.000	0.000	24.909		
Total Adjustments	0.000	0.000	24.909		
Summary of Adjustments Congressional program reductions Congressional undistributed reductions Congressional rescissions SBIR/STTR Transfer Economic Assumtions Reprogrammings Other Adjustments Congressional increases Subtotal	0.000	0.000	24.909 24.909		
Schedule:					
Not Applicable					
Technical:					
Not Applicable					
	R-1 SHOPPING LIST - I	taua Nia	203		

CLASSIFICATION:

XHIBIT R-2a, RDT&E Proj	jedi dudilildalidii							DATE:		- 0004
PPROPRIATION/BUDGET ACT	TIVITY	PROGRAM EI	LEMENT NUM	BER AND NAM	ИΕ	PROJECT N	IUMBER AND	NAME	Febru	ary 2004
DT&E, N /	BA-7	0307207N Aerial Common Sensor H3015 Aerial Common Se						nsor		
D. OTHER PROGRAM FU	JNDING SUMMARY:									
Line Item No. & Name	-	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total <u>Cost</u>
,	uture SIGINT Rqmts/Joint ACS Progran al Common Sensor (ACS)	n	3.955				6.006	226.733	1,464.278	3.955 1,697.017
E. ACQUISITION STRATEG	Υ:									
	army's ACS development efforts to deci	rease Navy cos	st and inint dev	elanment of te	chnology inse	ertions during t	he System Dev	elopment and Γ	Demonstration P	hase

CLASSIFICATION:

, and the second	Contract Method		ROGRAM ELEM 07207N Aerial (Tota PY Cos	Common Solal		FY 03	PROJECT NU H3015 Aerial				February 200	4	
RDT&E, N / BA-7 Cost Categories Primary Hardware Development Ancillary Hardware Development	Contract Method & Type	Performing Activity & Location	07207N Aerial (Tota PY Cos	Common Solal		IFY 03							
Cost Categories Primary Hardware Development Ancillary Hardware Development	Method & Type	Performing Activity & Location	Tota PY Cos	al s		FY 03	H3015 Aerial	Common Sen	sor				
Primary Hardware Development Ancillary Hardware Development	Method & Type	Activity & Location	PY Cos	S	FY 03	FY 03							
Primary Hardware Development Ancillary Hardware Development	& Type	Location	Cos		FY 03			FY 04		FY 05			
Primary Hardware Development Ancillary Hardware Development				ol .	Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date	Cost to Complete	Total Cost	Target Value of Contract
Ancillary Hardware Development	IBD	Anny Phine 160			Cost	Date	Cost	Date	15.000		300.000	315.000	315.000
									15.000	12/04	300.000	0.000	313.000
All Craft Integration												0.000	
Ship Integration												0.000	
Ship Suitability												0.000	
Systems Engineering												0.000	
Training Development												0.000	
Licenses												0.000	
Tooling												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal Product Development				0.000	0.000		0.000		15.000		300.000	315.000	
Development Support	C/CPFF	TBD							1.000	12/04	5.000	6.000	6.000
Development Support	WX	NAWC/WD, China	Lake, CA						4.709	12/04	19.514	24.223	
Integrated Logistics Support												0.000	
Configuration Management												0.000	
Technical Data												0.000	
Studies & Analyses												0.000	
GFE												0.000	
Award Fees												0.000	
Subtotal Support				0.000	0.000		0.000		5.709		24.514	30.223	
Remarks:					PING LIST :		203						

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)									February 200)4	
APPROPRIATION/BUDGET ACTIVI	TY	PROGRAM	ELEMENT			PROJECT N						
RDT&E, N / BA-7			Aerial Common S	Sensor		H3015 Aeria		ensor				
Cost Categories	Contract Method & Type	Performing Activity & Location		FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	TBD	TBD								45.000	45.000	
Operational Test & Evaluation	TBD	TBD								33.000	33.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000)	0.00	0	0.000		78.000	78.000	
	1	1		Г	T			1	T	1		
Contractor Engineering Support	C/CPFF	TBD						0.400	12/04	2.000	2.400	
Government Engineering Support	WX	NAWC/AD, Pax River, MD						2.500	1	8.000	10.500	
Program Management Support	WX	NAWC/AD, Pax River, MD						1.000	1	4.000	5.000	
Travel	WX	NAWC/AD, Pax River, MD						0.300	12/04	1.000	1.300	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000)	0.00	0	4.200)	15.000	19.200	
Remarks:												
Total Cost			0.000	0.000		0.00	0	24.909		417.514	442.423	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule																									DATE		Fe	ebruai	ry 20	04		
APPROPRIATION/BUDGET RDT&E, N /	ACTIV BA-7				1				PROG 03072					R AND	NAM	E	ı				PROJECT NUMBER AND NAME H3015 Aerial Common Sensor											
Fiscal Year						200	03			200	04			200	05			20	006			200	07			20	08			200	9	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Army Acquisition Milestones								M:	\$ B	Co	ntract			Contrac		d								△ M	s c	△ L	.UT* .RIP					
Contract Milestone										△ ^{Aw}	ard Ar	my	\triangle	lavy op	otion			lavy														
Spiral Milestone																		lavy Spiral														
PDR Army											\triangle^{P}	DR																				
CDR Army													CDR																			
Navy Requirements Design Ro	eview															\triangle																
Test & Evaluation Milestones																				, D	T 1	^ [T 2									
Development Test Army IOT&E																						\triangle							101	*&E		
IOTAE																											$\overline{}$		${}$			
Navy Production Options																													Δ	7		
	-1																-		000													

CLASSIFICATION:

Exhibit R-4a, Schedule Detail			DATE: February 2004					
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT	JMBER AND NAME					
RDT&BA-7	0307207N Ae	erial Common S	ensor	H3015 Aerial Common Sensor				
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Army Acquisition Milestone B (MS B)		4Q			1			
Army Acquisition Milestone C (MS C)						4Q		
Army Acquisition Milestone C (MS C) LUT LRIP							2Q	
Contract Award Army			2Q					
Contract Award Navy option				1Q				
Navy Spiral Commences					1Q			
Navy Spiral Completes							2Q	
PDR Army			3Q					
CDR Army			4Q					
Navy Requirements Design Review			,	4Q				
Developmental Testing 1 (DT 1) Army					4Q			
Developmental Testing 2 (DT 2) Army						2Q		
IOT&E Commences							3Q	
IOT&E Completes								1Q
Navy Production options								1Q
,								
								+
								
								

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET Exhibit R-2

DATE: Feb 2004

BA: 07 PROGRAM ELEMENT: 0308601N

PROGRAM ELEMENT TITLE: Modeling and Simulation Support

COST: (Dollars in Thousands)

Project Number & Title	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
	deling &	Simulation					
	7,417	6,948	7 , 262	7,564	8,653	8,807	8 , 972
R2810 EN	HANCED M&	S INITIATIVE	S				
	2,038	6 , 527	0	0	0	0	0
Totals	9,455	13,475	7,262	7 , 564	8,653	8 , 807	8 , 972

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Funds the efforts of the Navy Modeling and Simulation (M&S) Management Office. Supports technical and management initiatives directed by Congress, Department of Defense (DoD) and Secretary of the Navy (SECNAV) with the aim of bringing organization and focus to the development and use of M&S tools throughout Navy and DoD. It provides a central agency for the formulation and implementation of policy and quidance in M&S; represents Navy interests in Joint/other Agencies. Funds efforts to define and coordinate execution of a Navy M&S program to evolve an interoperable and reusable core M&S capability consistent with the M&S technical framework prescribed by DoD. Efforts are organized around four product areas: (1) Engineering Studies and Analysis, to research and define the feasibility and applicability of proposed standards to Navy and to investigate Service-unique requirements for standards or quidance; (2) Products and Services, to develop the policy, standards, technologies, and common tools and services necessary to quide more efficient development and use of M&S across Navy; this includes development and management of the Navy Modeling and Simulation Information System (NMSIS), (Navy counterpart to the DOD M&S Resource Repository), to provide a central M&S information resource to reduce stove-piped development, promote tool reuse and support informed M&S investment decisions; (3) M&S Quality Assurance Program, to establish and manage a disciplined process of model verification, validation and accreditation (VV&A) required by current directives; (4) Simulation Experiments, to test distributive simulation technology in fleet exercises, experiments, and to pilot efforts which demonstrate and examine the value and limitations of proposed standards (such as High Level Architecture (HLA) and Simulation Based Acquisition (SBA)) to mission and program requirements.

> R1 Line Item 204 Page 1 of 10

UNCLASSIFIED

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004 Exhibit R-2

BA: 07 PROGRAM ELEMENT: 0308601N

PROGRAM ELEMENT TITLE: Modeling and Simulation Support

PROGRAM CHANGE SUMMARY:

	FY 2003	FY 2004	FY 2005
FY 2004-2005 President's Budget Submission	9,612	7,044	8,248
Cong. Rescissions/Adjustments/Undist.Reductions	0	-161	0
Congressional Actions	0	6,600	0
Execution Adjustment	-75	0	0
Inflation Savings	0	0	-27
Rate Adjustments	0	-8	-6
SBIR Assessment	-82	0	0
Technical Adjustments	0	0	-953
FY 2005 President's Budget Submission	9,455	13,475	7,262

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: Not applicable.

Schedule: Not applicable.

R1 Line Item 204 Page 2 of 10

UNCLASSIFIED

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: Modeling and Simulation Support

PROJECT NUMBER: R2222 PROJECT TITLE: Modeling & Simulation

COST: (Dollars in Thousands)

Project FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Number Actual Estimate Estimate Estimate Estimate Estimate Estimate

& Title

R2222 Modeling & Simulation

7,417 6,948 7,262 7,564 8,653 8,807 8,972

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project specifically provides critical coordination of Navy Modeling and Simulation (M&S) efforts, integrates individual programs into a coherent whole, promotes reuse of resources, and aligns Navy efforts with Joint programs. Develops and maintains a comprehensive repository of models, simulations and authoritative data to support broad-based Navy requirements. Promotes reusability through the Quality Assurance process for models, simulations and data. Enhances interoperability by coordinating and reviewing Navy's transition to Department of Defense (DoD) mandated High Level Architecture (HLA) for distributed simulations. Participates in fleet exercise experiments, distributive simulations and demonstrations (such as Fleet Battle Experiments-I, Virtual at Sea Training (VAST), and Virtual Missile Range (VMR)).

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2003	FY 2004	FY 2005
Engineering Studies and Analysis	1,260	1,196	1,075

This activity conducts engineering studies and analyses aimed at determining the feasibility and applicability of proposed standards or technical approaches to Navy Modeling and Simulation, and at investigating Service-unique requirements for standards or guidance. Individual efforts will focus on developing or evaluating approaches to optimize training, assessments and acquisition functional/mission objectives through more efficient development and use of Modeling and Simulation (M&S). This activity develops methodologies and standards that will result in model and data reusability and interoperability through the formulation of a technical framework. These standards will support the full range of architecture and engineering design and analysis requirements across the Navy. This effort also provides an M&S degree program through the Naval Postgraduate School, Modeling Virtual Environments and Simulation (MOVES) curriculum.

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FY 2005 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: Modeling and Simulation Support

PROJECT NUMBER: R2222 PROJECT TITLE: Modeling & Simulation

FY 2003 Accomplishments:

• Demonstrated the capability of collecting network data for local and wide area networks at Navy Computer Telecommunications Area Masters Station (NCTAMS) Wahiawa.

- Performed communication burden analysis at a Joint Task Force (JTF).
- Provided capabilities to optimize deployed communication plans.
- Determined impact of new modeling and simulation and visualization technologies on Battle Group operations.
- Developed a center for the Study of Potential Outcomes that leverages the expertise and technology developed by faculty of the MOVES Institute at the Naval Postgraduate School.
- Provided interoperability links between Command, Control Communications, Computers, and Intelligence (C4I) systems and internal simulations as the means to integrate existing Defense Information Infrastructure (DII) Common Operating Environment (COE) services and applications into simulations.

FY 2004 Plans:

- Develop a prototype network Information Assurance (IA) assessment tool to support evaluation of network performance (throughput, delay, network overhead, packet loss and related network Quality of Service metrics), the effects of countermeasures, IA security policies and to identify potential network vulnerabilities.
- The MOVES Institute will work in tandem with the MOVES degree program to provide military relevant thesis topics for research.
- Design additional common simulation "building-block" functions required within DII COE based C4I systems to support simulation development.
- Demonstrate the Embedded Simulation Infrastructure requirements and capability to develop robust simulations within the DII COE and the Global Command and Control System Maritime (GCCS/M).

FY 2005 Plans:

- Segment the Embedded Simulation Infrastructure and the two Mission Applications and prepare the documentation for test and release in Global Command and Control System (GCCS) and GCCS/M.
- Continue to develop a set of standards for communications modeling and simulation for the US Navy.
- The MOVES Institute will continue to work in tandem with the MOVES degree program to provide military relevant thesis topics for research.

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FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: Modeling and Simulation Support

PROJECT NUMBER: R2222 PROJECT TITLE: Modeling & Simulation

	FY 2003	FY 2004	FY 2005
Products and Services	2,522	2,392	2,150

This activity supports development of common services, tools, databases and standards to ensure the integration and connectivity of modeling and simulation (M&S) products employed in Naval assessments, in training and acquisition, and among operational communities. It manages and maintains the Navy Modeling and Simulations Information System (NMSIS), as a central M&S information resource to support informed M&S investment decision making across Navy. It provides essential planning and coordination of M&S efforts with other Services, the Office of Secretary of Defense (OSD), the Joint Staff, and other agencies to develop policies and procedures necessary for M&S standardization within the Navy. It provides annual updates to the Naval M&S Catalog, Master Plan, and Investment Strategy.

FY 2003 Accomplishments:

- Staffed an updated Navy Modeling and Simulation Master Plan.
- Promoted and enhanced the state-of-practice and technology within the Navy M&S community.
- Organized a series of Navy M&S Technical Interchange Meetings to bring together the Navy M&S community for a direct interchange of M&S requirements, technology, standards and experience.
- Initiated development, via NMSIS, of a centralized M&S website for M&S users, managers, working groups, and developers to learn about and gain access to existing M&S resources, information and events, and to function as the Navy's Modeling and Simulation Resource Repository (MSRR) in accordance with the DoD Directive 5000.59, SECNAVINST 5200.38, and OPNAVINST 5200.34.
- Assisted development of the Navy's response to new requirements and policy governing High Level Architecture (HLA) compliance.
- Continued to foster and develop the Navy M&S Standards Process that draws M&S experts from the acquisition, training, operational communities, and industry.

FY 2004 Plans:

- Implement the requirements to perform as the Functional Data Manager for M&S as submitted by Department of Navy (DoN) Chief Information Officer (CIO) and defined by SECNAVINST 5000.36.
- Promote and enhance the state-of-practice and technology within the Navy M&S community.
- Continue the development, servicing and use of NMSIS as directed under applicable DoD DIR, SECNAVINST, and OPNAVINST.
- Organize and facilitate a continuing series of quarterly Navy M&S Technical Interchange Meetings to bring together the Navy M&S community for a direct interchange of M&S requirements, technology, standards and

R1 Line Item 204 Page 5 of 10

DATE: Feb 2004

FY 2005 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: Modeling and Simulation Support

PROJECT NUMBER: R2222 PROJECT TITLE: Modeling & Simulation

experience.

• Continue to foster and develop the Navy M&S Standards Process that draws M&S experts from the acquisition, training, operational communities, and industry.

FY 2005 Plans:

- Promote and enhance the state-of-practice and technology within the Navy M&S community.
- Continue the development, servicing and use of NMSIS as directed under applicable DoD DIR, SECNAVINST, and OPNAVINST.
- Organize and facilitate a series of Navy M&S Technical Interchange Meetings to bring together the Navy M&S community for a direct interchange of M&S requirements, technology, standards and experience. This will occur quarterly as part of policy.
- Continue to foster and develop the Navy M&S Standards Process that draws M&S experts from the acquisition, training, operational communities, and industry.

	FY 2003	FY 2004	FY 2005
M&S Quality Assurance Program	742	704	633

Continue to implement and manage the Modeling and Simulation (M&S) Quality Assurance development of the verification, validation and accreditation (VV&A) process and guidelines for modeling, simulation, and data. Continue to review both new and legacy M&S VV&A plans and reports. Develop and maintain the Naval M&S VV&A repository. Establish and implement a VV&A training curriculum for developers and accreditors. Provide annual VV&A assessment to the Chief of Naval Operations (CNO).

FY 2003 Accomplishments:

- Developed the VV&A Architecture within the VV&A Handbook.
- Developed the draft Navy Instruction update for VV&A.
- Developed a Department of Navy (DoN) M&S VV&A Annual Assessment Report.
- Developed an initial version of a Navy VV&A Documentation Tool.
- Developed training/education modules for accreditors and verification and validation (V&V) practitioners.

FY 2004 Plans:

Develop the Details of Architecture Implementation within the VV&A Handbook.

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UNCLASSIFIED

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: Modeling and Simulation Support

PROJECT NUMBER: R2222 PROJECT TITLE: Modeling & Simulation

Develop a prototype cost model for estimating the V&V costs.

- Tailor VV&A awareness training for Program Managers.
- Research and identify formal statistical methods that could be used, or are used, to validate M&S to establish credibility beyond the real world boundaries.
- Research and provide M&S acquisition and development guidance.

FY 2005 Plans:

- Develop Case Studies within the VV&A Handbook.
- Incorporate information developed for training/education into the VV&A Handbook.
- Coordinate with DoD and Services to identify new data entry fields for VV&A common to all Modeling and Simulation Resource Repositories.
- Coordinate with the NMSIS effort to update VV&A data entry fields and Beta test new data entry fields as required.
- Research and develop methodology for evaluating commercial off the shelf (COTS) tools used to develop valid M&S.

	FY 2003	FY 2004	FY 2005
Simulation Experiments	2,893	2,656	3,404

This activity supports Fleet exercises and experiments through the application of distributed simulations across a wide variety of warfighting and supporting communities. Specifically, it develops and integrates appropriate models and simulations into the Fleet Battle Experiments (FBE), and develops simulation efforts to test and evolve the standards for models, interfaces, and data. It supports development of tools necessary to enable the seamless access and use of operationally relevant Modeling and Simulation (M&S) products to support Navy training, warfare assessments and acquisition requirements.

FY 2003 Accomplishments:

- Reviewed metrics required to understand the benefits of modeling and simulation in the training environment as used during the Inter-Deployment Training Cycle (IDTC) for intermediate and advanced phase training.
- Participated in all aspects of planning and conducting the synthetic portion of Joint training events, as directed by Commander Second Fleet (COMSECONDFLT).
- Researched and defined Fleet training requirements (per TYCOMs), delivery (school houses), and execution (Numbered Fleet and Battle Groups) to increase the efficiency and effectiveness of intermediate phase training

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FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004
Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: Modeling and Simulation Support

PROJECT NUMBER: R2222 PROJECT TITLE: Modeling & Simulation

employing the use of M&S.

- Used the fleet battle experimentation process to provide insight to future Navy efforts, organizations and technologies required to carry the Navy into the end of this decade and the next. Efforts represented a synergetic Modeling and Simulation approach that will benefit Battle Fleet Tactical Training (BFTT), Virtual Training Range, FBE-J and Millennium Challenge (MCO2).
- Focused on development of standardized M&S capabilities, including the Probability of Raid Annihilation (PRA) simulation testbed, PRA Federation Object Model, and improved modeling of threats and the natural environment. These activities will foster and facilitate the development of common capabilities, services, and simulation components that can be re-used across ship classes and Program Executive Offices (PEOs).
- Through Maritime Virtual Environmental Data Specification (MARVEDS), continued developing and promulgating standards for representing the natural environment for distributed simulations. Standards include data representations, grids structures for providing data at the appropriate spatial resolutions, serving practices for delivering data at intervals that account for the natural dynamism of the environment and best practices for developing a common understanding of the data (effects models).
- Conducted Virtual Missile Range (VMR) development supporting the capability for operational ships to detect realistic, synthetically generated targets as real threats, and "fire" virtual missiles residing at weapons laboratories. The initial VMR capability has a virtual TRACKEX for the Evolved SeaSparrow Missile (ESSM) system enabling complete virtual missile engagements with the North Atlantic Treaty Organization (NATO) SeaSparrow Missile System (NSSMS).

FY 2004 Plans:

- Continue to define Fleet training initiatives and M&S enhancements.
- Perform FBE-K using a synergetic Modeling and Simulation approach.
- Continue to develop the Probability of Raid Annihilation (PRA) Simulation Testbed demonstrations.
- Define the Landing Platform Dock (LPD 17) Amphibious Ship Use Case Environment Concept Model.
- Continue to develop PRA Federation Object Model.
- Continue development of Virtual at Sea Training Deployable Prototype (VAST DP) to exercise Naval Surface Fire Support (NSFS) missions. Support inclusion of tactical aircraft (TacAir) in the VAST training system to complete the combined arms team training capability.
- Continue development of a Virtual at Sea Training Aviation Component (VAST-AC) to allow USN/USMC TacAir to participate in mission specific training to include amphibious or urban operations training by providing close air support (CAS) services against synthetic targets within a synthetic environment.
- MARVEDS will focus on the standard environmental data as distributed to multiple PEOs.
- The Virtual Missile Range (VMR) will expand its capability to include the NATO SeaSparrow Missile System and upgraded threats.

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FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: Modeling and Simulation Support

PROJECT NUMBER: R2222 PROJECT TITLE: Modeling & Simulation

FY 2005 Plans:

Continue to define Fleet training initiatives and M&S enhancements.

- ullet Perform FBE-L and the Olympic Challenge series of Joint experimentations using a synergetic M&S approach.
- Complete a VAST range system that provides the capability to conduct training in a virtual environment that would normally require a training range, and would otherwise be cost or schedule prohibitive.
- Document the elements of the maritime virtual environment and effects models that can be used effectively to enable reuse in Naval simulations best practices where standards are not yet feasible.
- VMR will continue to upgrade its virtual threat capabilities.

C. OTHER PROGRAM FUNDING SUMMARY:

RELATED RDT&E:

PE 0603235N (Common Picture Advanced Technology)

NON-NAVY RELATED RDT&E:

Not applicable

D. ACQUISITION STRATEGY:

Not applicable

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UNCLASSIFIED

DATE: Feb 2004

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0308601N PROGRAM ELEMENT TITLE: Modeling and Simulation Support

PROJECT NUMBER: Various PROJECT TITLE: Congressional Plus-Ups

CONGRESSIONAL PLUS-UPS:

R2810	FY 2003	FY 2004
ENHANCED M&S INITIATIVES	2,038	0

FY 03: This effort supported the development and enhancement of technologies that support fleet training, distributed simulation and production engineering. Provided the Naval Tool Interoperability and Risk Assessment (NTIRA) tool-kit, to enhance Maritime Battle Center Joint Semi-Automated Forces (MBDJSAF). Demonstrated the capability to test Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (CR4ISR) application in a multi-ship environment at sea using existing Systems Integration Environment (SIE). Enhanced production engineering simulation capabilities with the Virtual Shipboard and Lab Facilitator (VSLF).

R2810	FY 2003	FY 2004
NAVAL MODELING AND SIMULATION	0	6 , 527

FY 04: This program provides for development and enhancement of technologies that support fleet training, distributed simulation, and production engineering. The progam will support Modeling & Simulation initiatives in architecture assessment, command and control assessment, model development to support network/communications analysis, and production engineering and training, to include the development of composability standards for simulations architectures.

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:		
-						Februa	ary 2004	
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	ICLATURE	•	-	
RESEARCH DEVELOPMENT TEST & EVALUATION	I, NAVY / BA-7			0702207N Depot	Maintenance (Non	-IF)		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	
Total PE Cost	12.839	8.972						
E3030 F-18 SLAP	3.575							
H2451 P-3 SLAP	9.264	8.972						
W2454 AN/ARC-210-RT-1794(C)								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The F/A-18 Service Life Assessment Program (SLAP) will assess the structural condition of the F/A-18 fleet in order to determine what structural modifications are necessary to extend the aircraft designed service life and allow it to achieve inventory requirements. The Resource Sponsor (N78) has indicated an urgent need to assess the structural condition of the F/A-18 fleet to determine whether the structural condition supports OPNAV Tactical Aircraft inventory requirements through fiscal year (FY) 2020. It is known that F/A-18 aircraft built prior to Lot 18 are limited to 78% of their design fatigue life due to structural cracking in the section of the fuselage known as the "Center Barrel". The Center Barrel Replacement Plus (CBR+) program eliminates structural life limitations caused by cracking in the Center Barrel. The airframe structure also has the following structural limitations, both of which must be addressed to extend the designed service life of the aircraft. The F/A-18 A/B/C/D aircraft structure will also be assessed to determine the life limit on landings for all four models of types for aircraft lot 8 and above aircraft. Currently the aircraft structure is limited to 8300 landings. The goal of the SLAP program will be to identify critical structure to allow total landings to be increased to 14,500. This increase in total landings would allow the F/A-18 A/B/C/D to meet OPNAV Tactical Aircraft inventory requirements through fiscal year (FY) 2020. The Service Life Assessment Program (SLAP) on the P-3 includes all P-3 derivatives (H2451.) These efforts are required to be conducted for these airframes to ascertain what actions must be taken to safely operate each system until the targeted end of service life. The AN/ARC-210-RT-1794C (W2454) provided for the development of radio software modifications required for upgrades to the evolving standards.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE:							
	February 2004							
APPROPRIATION/BUDGET ACTIVITY								
RDT&E, N / BA-7	0702207N Depo	0702207N Depot Maintenance (Non-IF) H2451 P-3 SLAP						
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	9.264	8.972						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Current P-3C aircraft fatigue life estimates (from 20,000 to 24,000 flight hours) are based on analysis alone. The P-3 Service Life Assessment Program (SLAP) performed a full scale fatigue test on a P-3 test article in order to more accurately determine the aircraft fatigue life. Subsequent test article teardown is comparing post-test results with the original P-3 FLE predictions. SLAP will identify specific components that require inspection, repair, or replacement during Specific Structural Inspections (SSI), Enhanced Special Structural Inspections (ESSI), and Special Structural Inspections - Kits (SSI-K) in order to ensure safe operations. This SLAP effort was previously budgeted under APN-5 (BLI 053800) funding within OSIP 02-99.

R-1 SHOPPING LIST - Item No.

205

CLASSIFICATION:

PPROPRIATION/BUDGET ACTIVITY	ation		DATE:
PPROPRIATION/BUDGET ACTIVITY			February 2004
	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND I	NAME
DT&E, N / BA-7	0702207N Depot Maintenance (Non-IF)	H2451 P-3 SLAP	
J) B. Accomplishments/Planned Program			
) В. Accomplishments/Planned Program			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	9.264	8.972	
RDT&E Articles Quantity			
management.			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
						February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM	ELEMENT NUMBER AND NAME		PROJECT NUMBER AN	ID NAME	
RDT&E, N / BA-7	0702207N	Depot Maintenance (Non-IF)		H2451 P-3 SLAP		
(U) C. PROGRAM CHANGE SUMMARY:						
(U) Funding:		FY 2003	FY 2004	FY 2005		
Previous President's Budget:		5.006	9.073	0.000		
Current BES/President's Budget		9.264	8.972	0.000		
Total Adjustments		4.258	-0.101	0.000		
Summary of Adjustments						
Congressional program reductions						
Congressional undistributed reductions			-0.101			
Congressional rescissions		0.447				
SBIR/STTR Transfer		-0.117				
Economic Assumptions Reprogrammings		4.375				
Other Navy/OSD Adjustments		4.070				
Congressional increases						
Subtotal		4.258	-0.101	0.000		
(U) Schedule:						
Schedule changed to add the following items:	Landing gear	test complete 2Q/02; Complete Full	Scale Fatigu	e Test (FSFT) 1Q/03.		
The following milestones were previously report 3Q/03; complete SDRS Tracking Algorithm 10 article teardown.						
(U) Technical:						
Not Applicable						
rect applicable						
I						
L				205		

CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justification								DATE:		
								Februa	ary 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	LEMENT NUM	BER AND NAM	1E	PROJECT NU	MBER AND N	NAME			
RDT&E, N / BA-5	0702207N I	Depot Maintena	ance (Non-IF)		H2451 P-3 SLAP					
(U) D. OTHER PROGRAM FUNDING SUMMARY: <u>Line Item No. & Name</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	FY 2006	<u>FY 2007</u>	FY 2008	<u>FY 2009</u>	To <u>Complete</u>	Total <u>Cost</u>	
Line Item #34 P-3/EP-3 SSI-K (OSIP 05-05)			18.065	33.392	37.852	37.495	32.652	165.937	325.393	

(U) E. ACQUISITION STRATEGY:

SLAP was a full and open competition for a fatigue article test. The contract is a cost plus incentive fee (CPIF), therefore providing an incentive to the contractor to effectively manage program cost and schedule. Contract award was March 1999. SLAP supports the Secretary of the Navy's Maritime Patrol Aircraft Ten Year Plan.

R-1 SHOPPING LIST - Item No. 205

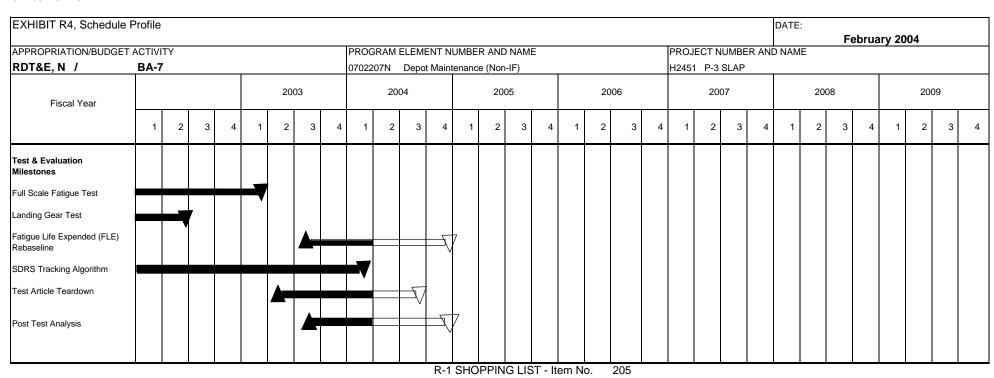
CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (p	age 1)										February 20	04	
APPROPRIATION/BUDGET ACT	IVITY		PROGRAM E					NAME	NAME				
RDT&E, N / BA-7			0702207N D	epot Maintenar	ice (Non-IF)		H2451 P-3 SI						
Cost Categories		Performing		Total		FY 03		FY 04		FY 05	_		
(Tailor to WBS, or System/Item	Method	Activity &		PY s	FY 03 Cost	Award	FY 04 Cost	Award	FY 05	Award	Cost to	Total	Target Value
Requirements)	& Type	Location		Cost		Date		Date	Cost	Date	Complete	Cost	of Contract
Systems Engineering	C/CPIF	LMAS, GA		70.100	1		4.960	01/04				81.140	1
Systems Engineering	WX	NRL		+	0.050							0.050	
Systems Engineering	C/CPIF	NLR		-	0.800					+		0.800	
Govt Engineering Support	WX	NADEP Jax		-	0.870	1	0.799	1		+		1.669	1
Govt Engineering Support	WX	NAWCAD		1	0.600	01/03	1.700	12/03				2.300	1
												<u> </u>	
Subtotal Product Development				70.100	8.400)	7.459	9	0.00	0	0.000	85.959	j
				+								 	+
				+								+	+
													+
													+
				1									
Subtotal Support				0.000	0.000)	0.000)	0.00	0		0.000)
- Солония структи		+				1		1	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	- 1	-	4	-1
Remarks:													

CLASSIFICATION:

	5)								DATE:				
Exhibit R-3 Cost Analysis (p	age 2)		Innognus	LEMENT			IDDO IDOT NI				February 20	04	
APPROPRIATION/BUDGET ACT RDT&E, N / BA-7	IVIIY		PROGRAM E		(Na. 15)		PROJECT N		NAME				
Cost Categories	Contract	Performing	0702207N Depot Maintenance (Non-IF) g Total FY 03				H2451 P-3 SLAP FY 04						1
Cost Categories	Method	Activity &		PY s	FY 03	Award	FY 04	Award	FY 05	Award	Cost to	Total	Target Value
	& Type	Location		Cost	Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
											'		
Subtotal T&E				0.000	0.000		0.000	0	0.0	00		0.000	
Remarks:													
Nomano.													
Program Management Support	C/CPIF	Various		2.147	0.737		0.71	3 12/03				3.59	3.597
Government Engineering Support	WX	NAWCAD		4.538	0.127	12/02	0.800	0 12/03				5.46	5
Subtotal Management				6.685	0.864	1	1.51	3	0.0	00	0.000	9.06	2
Remarks:													
T		1									1	95.02	.1
Total Cost				76.785	9.264	ł <u>l</u>	8.972	<u> </u>	0.0	00]	0.000	95.02	Ц
Remarks:													
-													

CLASSIFICATION:



^{*} Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:	ebruary 200)4				
APPROPRIATION/BUDGET ACTIVITY	APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT							PROJECT NUMBER AND NAME				
RDT&E, N / BA-7	0702207N	Depot Maintena	ance (Non-IF)		H2451 P-3 S	SLAP						
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009				
Full Scale Fatigue Test completion		1Q										
Initiate Test Article Teardown		2Q										
Fatigue Life Expended (FLE) Rebaseline		3Q										
Commence Post Test Analysis		3Q										
Complete SDRS Tracking Algorithm			1Q									
Complete Fatigue Life Expended Rebaseline			4Q									
Complete Test Article Teardown			3Q									
Complete Post Test Analysis			4Q									

R-1 SHOPPING LIST - Item No.

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Exhibit R-4a, Schedule Detail (Exhibit R-4a, page 9 of 9)

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004 Exhibit R-2

BA: 07 PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: Industrial Preparedness

COST: (Dollars in Thousands)

Project Number & Title	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
Total PE	71,704	64,270	56,565	57 , 790	57 , 984	59 , 277	60,629
1050 MANUFA	ACTURING	TECH					
	67,401	53 , 985	56 , 565	57 , 790	57 , 984	59 , 277	60,629
2674 MANUFA	ACTURING	TECHNOLOGY					
	4,303	10,285	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Manufacturing Technology (ManTech) Program is intended to improve the productivity and responsiveness of the U.S. defense industrial base by funding the development of manufacturing technologies. The ManTech program, by providing seed funding for the development of moderate to high risk process and equipment technology, permits contractors to upgrade their manufacturing capabilities. Ultimately, the program aims to produce high-quality weapon systems with shorter lead times and reduced acquisition costs.

PROGRAM CHANGE SUMMARY:

	FY 2003	FY 2004	FY 2005
FY 2004-2005 President's Budget Submission	73 , 320	54 , 593	56,810
Cong. Rescissions/Adjustments/Undist.Reductions	0	-723	0
Congressional Actions	0	10,400	0
Misc. Adjustments	149	0	-245
SBIR Assessment	-1 , 765	0	0
FY 2005 President's Budget Submission	71,704	64,270	56 , 565

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: Not applicable.

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FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004

Exhibit R-2

BA: 07 PROGRAM ELEMENT: 0708011N

PROGRAM ELEMENT TITLE: Industrial Preparedness

Schedule: Not applicable.

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UNCLASSIFIED

FY 2005 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: Industrial Preparedness

PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECH

COST: (Dollars in Thousands)

Project FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 Number Actual Estimate Estimate Estimate Estimate Estimate

& Title

1050 MANUFACTURING TECH

67,401 53,985 56,565 57,790 57,984 59,277 60,629

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Manufacturing Technology (ManTech) Project is intended to improve the productivity and responsiveness of the U.S. defense industrial base by funding the development of manufacturing technologies. Major areas of endeavor both underway and planned include: advanced manufacturing technology for electronics assembly, laser metalworking, flexible computer manufacturing, composites, metal working, and welding technology. The ManTech project is being integrated into the Seapower 21 and Joint Warfare Operational Capability process and will utilize the results of these initiatives as appropriate in the program planning process. The ManTech project is aimed at achieving affordability in the acquisition of weapons systems by inserting manufacturing process solutions early into the design phase to reduce lifecycle costs, improve schedules, and ensure quality.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2003	FY 2004	FY 2005
Metals Processing and Fabrication	19,000	19,000	19,000

The objective of the Metals Processing and Fabrication activity is to develop affordable, robust manufacturing processes and capabilities for metals and special materials critical to Defense weapon system applications. Major areas that support this objective include: processing methods, special materials, joining, and inspection and compliance. These efforts directly impact the cost and performance of future aircraft, rotorcraft, land combat vehicles, surface and subsurface naval platforms, space systems, artillery and ammunition, and defense industry manufacturing equipment.

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FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: Industrial Preparedness

PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECH

FY 2003 Accomplishments:

- High Strength Marine Grade Fasteners Extended Development: Resulted in cost avoidance of \$1.1 million per Sea Wolf and Virginia Class sub.
- Advanced Thermal Battery Production: Reduced battery manufacturing costs resulting in cost avoidance of \$29 million for the Air Deployable Low Frequency Projector (ADLFP) and AN/SSQ-62E sonobuoy programs.
- Distortion and Accuracy Control: Improved dimensional accuracy of thermal cut plates to reduce ship fabrication and assembly costs by 30% for the DD(X) program.
- Single-Melt Process for Reduced-Cost Aluminum Alloys for LW-155 Howitzer: Developed new process which will become industry standard for producing low cost titanium ingots to be used on the M777 Howitzer, ingot cost reduced by 27%.
- Propulsor Affordability Initiative: Improved manufacturing technologies to reduce cycle time by 6 12 months and cost by over \$3M for the Virginia class sub.
- Automated Paint Application Containment and Treatment System Process Development: New paint application and containment system results in cost avoidance estimated to be \$2 million per year by reducing paint acquisition costs, reducing dry dock time and complying with environmental guidelines.
- Titanium Welding: Improved erosion and corrosion resistance of titanium pipes on LPD 17, extending their life resulting in large cost savings due to reduced maintenance and support costs.
- Weld Fume Manufacturing: Reduced hazardous weld fumes for Navy personnel fabricating the DDG, CVN, SSN sub, LPD-17, and F-14, F/A-18.
- Enhanced Processing for High Strength Steel Castings and Forgings for Naval Components (CVN): Reduced weight and improved performance of castings and forgings used on subs and ships.
- Concept Exploration for CVN 21 Metalworking Technology: Identified issues related to metalworking.
- Modeling and Simulation for Carrier Construction Planning and Sequencing: Developed pilot assembly process model and simulation.
- Laser Welded Lightweight Structure Panel Fabrication for CVN 21: Fabricated laser welded NAVTRUSS panels for analysis.

FY 2004 Plans:

- Propulsor Affordability Initiative: Continue Single-Melt Process for Reduced-Cost Aluminum Alloys for LW-155 Howitzer. Continue High Strength Marine Grade Fasteners Extended Development. Continue Advanced Thermal Battery Production. Continue Distortion and Accuracy Control program. Continue Automated Paint Application Containment and Treatment System Process Development.
- Laser Welded Lightweight Structure Panel Fabrication for CVN 21: Deliver Navy approved process for fabrication.

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FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004 Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: Industrial Preparedness

PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECH

- Availability of SubMergable Arc Weld (SMAW) Electrode (Mil-10718-M) Required for Ballistic Performance Requirements: Manufacture and test initial electrodes.
- Modeling and Simulation for Carrier Construction Planning and Sequencing: Demonstrate the simulated construction of major ship modules for CVN 21.
- Issues Associated with the Fabrication of Titanium Components: Select 5 candidate applications for evaluation.
- Manufacturing Process Development for Elimination of Weld Distortion of CVN 21 Heavy Plate Erection Units: Develop a weld-sequence plan to minimize weld distortion for prototype assemblies.
- Development of Cost Effective, Low-Manganese Flux Core Welding Electrode for Joining High Strength Steels: Manufacture test lots of modified flux covered welding wire.
- High Strength and Toughness Naval Steels for Ballistic Protection: Determine optimal welding parameters.

FY 2005 Plans:

- Propulsor Affordability Initiative: Continue Single-Melt Process for Reduced-Cost Aluminum Alloys for LW-155 Howitzer. Continue High Strength Marine Grade Fasteners Extended Development. Continue Advanced Thermal Battery Production. Continue Distortion and Accuracy Control program.
- Laser Welded Lightweight Structure Panel Fabrication for CVN 21: Weld and process validation.
- Availability of SMAW Electrode (Mil-10718-M) Required for Ballistic Performance Requirements: Develop recommendations on improving electrode manufacturing process.
- Modeling and Simulation for Carrier Construction Planning and Sequencing: Demonstrate the simulated construction of major ship modules for CVN 21.
- Issues Associated with the Fabrication of Titanium Components: Develop process for manufacture and joining of titanium structures to bimetallic transition joints.
- Manufacturing Process Development for Elimination of Weld Distortion of CVN 21 Heavy Plate Erection Units: Complete the construction of a prototype.
- Development of Cost Effective, Low-Manganese Flux Core Welding Electrode for Joining High Strength Steels: Verification of new wire.
- High Strength and Toughness Naval Steels for Ballistic Protection: Determine optimal welding parameters.

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FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2a

DATE: Feb 2004

BA: 07 PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: Industrial Preparedness

PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECH

	FY 2003	FY 2004	FY 2005
Other (Repair Tech, Program Initiatives)	26,901	13,485	16,065

The "Other" activity includes repair technology and those manufacturing efforts that are competed and executed by the Navy's Centers of Excellence, including DD-X, LPD-17, Unmanned Combat Air Vehicle-Navy, Shipbuilding Initiative, Wide Band Gap Initiatives, and technical engineering support.

FY 2003 Accomplishments:

- Initiated second year of the Navy International Cooperative Program for Shipbuilding Process Simulation and Advanced Composites Research. Initiated Phase 2 Wide Band Gap Materials Technology project based on the industry data from Phase 1. Continued Composites Affordability Initiative Phase II Integrated and Bonded Structures Validation. Completed Pathways for Continuous Improvement program for the Standoff Land Attack Missile Expanded Response (SLAM-ER) program. Continued Supply Chain Integration for Newport News Shipbuilding. Assessed transition path for MicroElectroMechanical Systems for Inertial Measurement Units (MEMS IMU) for go-no-go decision. Provided technical engineering support for the Manufacturing Technology (ManTech) program.
- Initiated Virtual Training in Welding in support of Program Executive Officer (PEO) Subs. Initiated Phase 2 of the Collarless Construction for DD(X). Completed Computer Numerically Controlled (CNC) Thermal Plate Forming in support of DD(X). Completed Amphibious Assault Vehicle (AAV) Enhanced Applique Armor Kit Product Improvement. Completed evaluation and repair of Lightweight Armored Vehicle (LAV) Armor. Completed heavy equipment repair. Completed Steering Block Repair. Completed Low Cost, Reliable Packaging and Integration of Miniaturized Explosive Components, and, Low Cost, Improved Quality CL-20 Material, Co Layered Propellant Manufacturing. Initiated Phase 2 for Dimensional and Accuracy Control. Initiated Phase 2 Large Marine Composite-to-Steel Adhesive Joints.

FY 2004 Plans:

- Continue to develop Manufacturing Process Improvements supporting DD(X), CVN-21, and LPD-17.
- Conduct a Pathways for Continuous Improvement program aboard the USS George Washington and USS Harry S. Truman. Develop comprehensive study in Supply Chain Integration for selected acquisition program. Close-out MEMS IMU, and publish industry-government guidelines. Provide technical engineering support for the ManTech program.

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DATE: Feb 2004

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

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BA: 07 PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: Industrial Preparedness

PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECH

FY 2005 Plans:

• Continue to pursue Manufacturing Process Improvements supporting DD(X), CVN-21, and LPD-17. Establish manufacturing development teams and initiate projects in support of the Littoral Combat Ship. Provide technical engineering support for the ManTech program.

	FY 2003	FY 2004	FY 2005
Electronics Processing and Fabrication	10,000	10,000	10,000

Electronics Processing and Fabrication efforts develop and deploy affordable, robust manufacturing processes and capabilities for electronics critical to Defense applications over their full life cycle. Efforts create new and improved manufacturing processes on the shop floor, as well as to repair and maintenance facilities such as depots and logistics centers, with a strong emphasis on process maturation.

FY 2003 Accomplishments:

- LINK-16 Low Cost Terminal: SPAWAR Program Officer established as stakeholder. Developed insertion path into Multifunctional Information Distribution System Land Vehicle Track 1 (MIDS LVT1) effective in FY05.
- Monolithic Miniature Integrated Circuit (MMIC) Flip Chip Attach Production Processing: Transitioned from prototype to high speed commercial manufacturing line.
- Teaching Factory Outreach, Rapid Response: Received ISO9001-2000 certification, demonstration factory supported the transition of MicroElectroMechanical Systems Inertial Measurement Unit (MEMS IMU), Radio Frequency (RF) devices for data links and solid state power switching Thyristors for DD(X).
- Infrared Focal Plane Array Manufacturing: Manufacturing process improved, cost metrics indicate costs goals will be met.
- Affordable Diode Array Manufacturing: Updated quality and testing procedures, fabricated submodule test station, and performed accelerated life-cycle testing of 10 "before" tiles.
- Fiber Optic Electrical Splice: Several improvements to the fabrication process to improve strength, and reduce manufacturing time per sensor.

FY 2004 Plans:

- LINK-16 Low Cost Terminal: Test vehicles to be identified, evaluated, verified, and conclusions drawn with follow-on.
- MMIC Flip Chip Attach Production Processing: Reliability testing for bump process. Complete 2nd source transition. Deliver MMIC flip chip devices to F/A-18.

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FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: Feb 2004

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BA: 07 PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: Industrial Preparedness

PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECH

• Teaching Factory Outreach, Rapid Response: Direct weapon support of AEGIS Radar, MIDS LVT-1, Joint Tactical Radio System (JTRS), F/A-18, and the Army's Future Combat System. Support transition of manufacturing technology of PRC-112 radio, the BB5590 battery for the USMC Single Channel Ground and Airborne Radio System (SINCGARS) radio, and the US Navy SEAL Delivery Vehicle.

- Infrared Focal Plane Array Manufacturing: Demonstration runs and final report to be completed.
- New efforts in Wide Band Gap Materials that support ship platforms.

FY 2005 Plans:

- LINK-16 Low Cost Terminal: Delivery of 3 new Power Amplifiers.
- Complete MMIC Flip Chip Attach Production Processing.
- Teaching Factory Outreach. Continue Rapid Response. Continue support of Multi-Function-Fuze (MFF), Extended Range Guided Munition (ERGM), and Small Diameter Bomb (SDB).
- Manufacturing process improvement work for the new EA-18G.

	FY 2003	FY 2004	FY 2005
Composites Processing and Fabrication	6,000	6,000	6,000

The primary technical goal of the Composites Processing and Fabrication activity is to maximize weapon system effectiveness through the increased utilization of composite materials and structures by reducing acquisition as well as life cycle costs, improving reliability and demonstrating performance improvements. This will be achieved through the development and maturation of affordable, robust manufacturing and assembly processes for composite structures.

FY 2003 Accomplishments:

- Composite Pressure Vessel Fabrication: Developed high burst strength vessels competitive with conventional metal containers used in tactical missiles, cost avoidance of \$37.5 million.
- Automation of Z-Fiber for Complex Shape: Reduced touch labor which results in cost avoidance of \$8,600 per F/A-18E/F and improves quality of Z-Pin Fiber insertion.
- Teaching Factory Outreach: Developed "Introduction to Composites and Composite Repair" courseware.
- Manufacturing Technology for Silicon Carbide Flaps and Seals: Optimized manufacturing process to result in cost avoidance of over \$5 million for 520 F414 engines.
- Propulsion Shaft Composite Surface Treatment: Developed a coating system that increases service life of ship propulsion shafts from seven to 15 years and results in estimated cost avoidance of \$24 million every five year period.

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FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: Industrial Preparedness

PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECH

FY 2004 Plans:

• Composite Pressure Vessel Fabrication: Target implementation into Rolling Airframe Missile Pre-Planned Product Improvement program.

- Automation of Z-Fiber for Complex Shape: Target implementation into F/A-18E/F.
- Rapid Response initiatives supporting critical fleet manufacturing problems: Improve Manufacturing Technology for Silicon Carbide Flaps and Seals. Develop Propulsion Shaft Composite Surface Treatment.
- Expeditionary Fighting Vehicle (EFV) Troop Ramp: Develop SURMAX armor system to reduce weight by 25% and reduce the cost of door assemblies on 1000 Expeditionary Fighting Vehicles (formerly Advanced Amphibious Assault Vehicle (AAAV)).
- Systems Design & Manufacturing Demonstrations: Develop composites processing for carrier-compatible Joint Unmanned Combat Aerial System (J-UCAS).

FY 2005 Plans:

- Manufacturing Technology for Silicon Carbide Flaps and Seals: Develop propulsion shaft composite surface treatment.
- Systems Design & Manufacturing Demonstrations: Develop composites processing for carrier compatible J-UCAS.
- Develop new manufacturing processes supporting F/A-18 and the new EA-18G.
- Continue Rapid Response initiatives supporting critical fleet manufacturing problems.

	FY 2003	FY 2004	FY 2005
Advanced Manufacturing Enterprise	5 , 500	5 , 500	5 , 500

American Manufacturing Enterprise (AME) is focused on accelerating defense industrial enterprise progress toward implementation of world-class industrial practices as well as advanced design and information systems that support weapon system development, production, and sustainment. Key emphasis areas include: 1) Benchmarking and accelerating the implementation of world-class industrial practices; 2) Demonstrating and validating advanced business practices and information technologies capable of streamlining management functions in all industrial base tiers; and 3) Leveraging information technologies in pursuit of tighter coupling of all defense industrial enterprise elements. AME efforts create improvements to cost and cycle time for weapon system development, production, and repair.

FY 2003 Accomplishments:

• Continued the following efforts: 5 Best Manufacturing Practices Surveys, Port Security Homeland Security efforts, Shipbuilding and Simulation Based Design, Occupational Safety and Health Administration (OSHA)

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FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2004

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: Industrial Preparedness

PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECH

Compliance Management System, Development of High Strength Corrosion Resistant Aluminum Alloys for Maritime Applications, and continuous improvements in Drydock Management.

• Continued the Maritime Environmental Information Center. Continued Ship Propeller Thrust and Torque Measurement. Continued Fiber-Bragg Optical Damage Control System. Continued Quality Assurance of Reliability Data in the 3-M Database of the U.S. Navy. Completed the Ships Works Robotic Laboratory. Continued Light Distance and Ranging Technology for Shipyards. Initiated Modeling of Residual Stress in Steel Plates.

Initiated manufacturing technology process change portfolios for DD(X), CVX, and LPD-17.

FY 2004 Plans:

- Conduct 6 Best Manufacturing Practices Surveys. Complete Shipbuilding and Simulation Based Design.
- Complete the following efforts: OSHA Compliance Management System, Development of High Strength Corrosion Resistant Aluminum Alloys for Maritime Applications, and continuous improvements in Drydock Management.

FY 2005 Plans:

- Conduct 8 Best Manufacturing Practices Surveys. Complete Shipbuilding and Simulation Based Design.
- Continue manufacturing technology process changes for the DD(X), CVN, and LPD-17.

C. OTHER PROGRAM FUNDING SUMMARY:

RELATED RDT&E:

Major Acquisition programs, such as: DD(X), LPD-17, V-22, EFV, F/A-18, and CVN.

NON-NAVY RELATED RDT&E:

PE 0708011F Industrial Preparedness

PE 0708045A End Item Industrial Preparedness Activities

PE 0708011S Manufacturing Technology

D. ACQUISITION STRATEGY:

Not applicable.

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DATE: Feb 2004

FY 2005 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

Exhibit R-2a

BA: 07 PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: Industrial Preparedness

PROJECT NUMBER: Various PROJECT TITLE: Congressional Plus-Ups

CONGRESSIONAL PLUS-UPS:

2674	FY 2003	FY 2004
MANUFACTURING TECHNOLOGY	4,303	10,285

FY 2003: Funding was used to initiate three Transformational Technology Initiatives: Technology refresh in support of the Joint Strike Fighter program, Special Delivery Vehicle (SDV) Storage Battery in support of the Navy Seals, and Tin Whisker Mitigation. Also funded were two technology solution manufacturing efforts: Salinity Cell in support of CVN-21, and Long-Life Non-Skid Surfaces on Carriers. These projects were kicked-off, transition insertion paths identified, and program plans developed. Technical engineering work is being conducted in accordance with the prescribed SOWs.

FY 2004: Funding will be used to support continuing efforts under the Manufacturing Technology (ManTech) Integrated Investment Strategy focusing on CVN-21 weight reduction initiatives, J-UCAS production vehicle, and composite-to-steel processes for DD(X). Initiate a study with the FNC community to look at enabling capabilities that are similar to the ManTech platforms, and select a candidate technology for ManTech affordability/transition work. Initiate a program to improve energy density to increase battery lifetime in operational (especially dismounted) units.

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UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE:	
						Febru	ary 2004
APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLA					CLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7				NAT'L SHIPBLDG	RES PROG ADV S	SHIPBLDG ENTERI	PRISE/0708730N
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	11.673	12.724	10.265	0.000	0.000	0.000	0.000
Automatic Identification Technology/T9441	0.000	2.769	0.000	0.000	0.000	0.000	0.000
NSRP/ASE/S2466/S2811	9.330	9.955	10.265	0.000	0.000	0.000	0.000
Maritime Tech, Ship Design & Sys Develop Init/R9121	2.343	0.000	0.000	0.000	0.000	0.000	0.000

Defense Emergency Response Funds (DERF) Funds: N/A

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 2466/2811 (NSRP ASE):

The mission of the National Shipbuilding Research Program Advanced Shipbuilding Enterprise (NSRP ASE) is to manage and focus national research funding on technologies that will enhance U.S. commercial shipbuilding and ship repair competitiveness and reduce the cost of naval ships, construction, modification and repair.

Industry has developed a landmark long range Strategic Investment Plan which will guide NSRP ASE investments. This Strategic Investment Plan provides a framework to guide collaborative research and development among all segments of the U.S. ship construction and repair industry, educational and research institutions, and Government. The objective is to assist the industry in achieving significant reduction in the cost and time required for both commercial and Navy ship construction, conversion, and repair. The recommended investment portfolio includes major initiatives that tie the strategic vision to proposed industry research through collaborative R&D. The major initiatives include: Shipyard Production Process Technologies, Business Process Technologies, Product Design and Material Technologies, Systems Technologies, Facilities and Tooling. Additionally, several critical success factors were found to cut across all of the major initiatives. These "Crosscut Initiatives" include Education and Training, Technology Transfer, Organizational Change, Environmental Protection and Human Resources.

The collaboration of major shipyards that lead the program are: General Dynamics Electric Boat Corporation, General Dynamics Bath Iron Works, Northrop Grumman Newport News, Atlantic Marine, Northrop Grumman Ship Systems Ingalls, Halter Marine, Northrop Grumman Ship Systems Avondale, General Dynamics NASSCO, Todd Pacific, Cascade General and Bender Shipbuilding.

Project 9121 (Maritime Technology, Ship Design and Systems Development Initiative):

Develop a cooperative research effort to improve the quality of shipyard products, efficiency of shipyard production and introduce advanced ship system designs. Thrust areas for this effort include: 1) Lean/agile manufacturing; 2) Shipyard Production Process Automation; 3) Shipyard Production Process Improvement; 4) Ship Design and Production Simulation and Visualization; 5) Education and Training; 6) Application of Advanced Materials to Ship Design and Manufacturing; 7) Design and Application of Advanced Ship Systems. A team of Navy, University of New Orleans, and Northrop Grumman Ship Systems (Avondale) personnel will prioritize potential research projects supporting these thrust areas and oversee project execution to ensure program goals are being met.

CLASSIFICATION:

EVUIDIT D 2	RDT&E Budget It	om Justification	2			DATE:	
EARIDIT N-2,	KDT&E Buuget II	em Justincation	1			'	
						February 2004	r
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMEN	NCLATURE		i
RESEARCH DEVELOPMENT TEST & EVALUATION, I	NAV Engineering	& Manufactur	ing	0708730N Maritin	ne Technology/T) 441	<u> </u>
COST (\$ in Millions)	COST (\$ in Millions)				FY 2007	FY 2008	FY 2009
Total PE0708730N Cost	0.000	2.769	0.000	0.000	0.000	0.000	0.000
Automatic Identification Technology	0.000	2.769	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles Not Applicable							
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICA	ATION:						

The Navy Automatic Identification Technology (AIT) Engineering Support Center (ESC) will support the Navy AIT Project Office (NAVSUP) customers comprised of 35 Navy-wide Echelon II and subordinate commands with AIT integration into supply chain business processes and automated information systems to enhance Fleet readiness and improve logistics

(U)B. JUSTIFICATION OF BUDGET ACTIVITY: This is a new Congressional Add.

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification						DATE:	
						Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY		PROJECT NUMBER AND NAME					
RDT&E, N/BA-7	2466/2811/NSRP ASE						
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	9.330	9.955	10.265	0.000	0.000	0.000	0.000
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 2466/2811 (NSRP ASE):

The mission of the National Shipbuilding Research Program Advanced Shipbuilding Enterprise (NSRP ASE) is to manage and focus national research funding on technologies that will enhance U.S. commercial shipbuilding and ship repair competitiveness and reduce the cost of naval ships, construction, modification and repair.

Industry has developed a landmark long range Strategic Investment Plan which will guide NSRP ASE investments. This Strategic Investment Plan provides a framework to guide collaborative research and development among all segments of the U.S. ship construction and repair industry, educational and research institutions, and Government. The objective is to assist the industry in achieving significant reduction in the cost and time required for both commercial and Navy ship construction, conversion, and repair. The recommended investment portfolio includes major initiatives that tie the strategic vision to proposed industry research through collaborative R&D. The major initiatives include: Shipyard Production Process Technologies, Business Process Technologies, Product Design and Material Technologies, Systems Technologies, Facilities and Tooling. Additionally, several critical success factors were found to cut across all of the major initiatives. These "Crosscut Initiatives" include Education and Training, Technology Transfer, Organizational Change, Environmental Protection and Human Resources.

The collaboration of major shipyards that lead the program are: General Dynamics Electric Boat Corporation, General Dynamics Bath Iron Works, Northrop Grumman Newport News, Atlantic Marine, Northrop Grumman Ship Systems Ingalls, Halter Marine, Northrop Grumman Ship Systems Avondale, General Dynamics NASSCO, Todd Pacific, Cascade General and Bender Shipbuilding.

R-1 SHOPPING LIST - Item No. 207

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, Page 3 of 15)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N/BA-7	0708730N/NSRP ASE	2466/2811/NSRP ASE	

B. Accomplishments/Planned Program

	FY 03	FY04	FY05	FY06
Accomplishments/Effort/Subtotal Cost			9.055	
RDT&E Articles Quantity				

Initiate technology development projects in the six major initiate areas selected from Research Announcement 4. All projects will be performed jointly by the Executive Control Board (ECB) of the National shipbuilding Research Program (NSRP) to support current and future Navy Shipbuilding programs.

	FY03	FY04	FY05	
Accomplishments/Effort/Subtotal Cost	8.385			
RDT&E Articles Quantity	N/A	N/A		

Complete remaining technology development projects in the six major initiative areas selection from Research Announcement Two and Two Prime: Projects to be completed include SPARS, Lean Manufacturing LASOX. All projects are being performed jointely by the Executive control board of the National Shipbuilding Research Program to support current and future Navy shipbuilding programs.

	FY03	FY04	FY05	
Accomplishments/Effort/Subtotal Cost	0.400	0.400	0.500	
RDT&E Articles Quantity	N/A	N/A	N/A	

Continue utilization of industry-led major initiative teams and NSRP panels to perform the execution and annual review of the Strategic Investment Plan, including technology projects, technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justific	ation			DATE: February 2004
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AN	
OT&E, N/BA-7	0708730N/NSRP ASE		2466/2811/NSRP ASE	
Accomplishments/Planned Program				
	FY03	FY04	FY05	
Accomplishments/Effort/Subtotal Cost		9.015	1133	
RDT&E Articles Quantity		N/A		
SPARS, SPARS-2, ISE-2, ISE-3, Lean Manu	ıfacturing, Extended Lean Manufacturi	ng, Lasox, WEMACS, 0	common Parts Catalog, Lean	aclude: Auto Generation, World Class Material Stds, Simulation Training Exercises, Second Tier Design am (NSRP) to support current and future Navy
SPARS, SPARS-2, ISE-2, ISE-3, Lean Manu Enhancements. All projects will be performe	ifacturing, Extended Lean Manufacturi d jointly by the Executive Control Boar	ng, Lasox, WEMACS, (d (ECB) of the National	common Parts Catalog, Lean shipbuilding Research Progra	Simulation Training Exercises, Second Tier Design
SPARS, SPARS-2, ISE-2, ISE-3, Lean Manu Enhancements. All projects will be performe Shipbuilding programs.	Ifacturing, Extended Lean Manufacturi d jointly by the Executive Control Boar FY 03	ng, Lasox, WEMACS, (d (ECB) of the National	common Parts Catalog, Lean shipbuilding Research Progra	Simulation Training Exercises, Second Tier Design
SPARS, SPARS-2, ISE-2, ISE-3, Lean Manu Enhancements. All projects will be performe Shipbuilding programs. Accomplishments/Effort/Subtotal Cost	ifacturing, Extended Lean Manufacturi d jointly by the Executive Control Boar	ng, Lasox, WEMACS, (d (ECB) of the National	common Parts Catalog, Lean shipbuilding Research Progra	Simulation Training Exercises, Second Tier Design
SPARS, SPARS-2, ISE-2, ISE-3, Lean Manuenhancements. All projects will be performe Shipbuilding programs. Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	facturing, Extended Lean Manufacturing by the Executive Control Boar FY 03 0.250 N/A	ng, Lasox, WEMACS, (d (ECB) of the National	common Parts Catalog, Lean shipbuilding Research Progra	Simulation Training Exercises, Second Tier Design
SPARS, SPARS-2, ISE-2, ISE-3, Lean Manu Enhancements. All projects will be performe Shipbuilding programs. Accomplishments/Effort/Subtotal Cost	facturing, Extended Lean Manufacturing by the Executive Control Boar FY 03 0.250 N/A	ng, Lasox, WEMACS, (d (ECB) of the National	common Parts Catalog, Lean shipbuilding Research Progra	Simulation Training Exercises, Second Tier Design
SPARS, SPARS-2, ISE-2, ISE-3, Lean Manuenhancements. All projects will be performe Shipbuilding programs. Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Continue transition of projects to shipbuilding	facturing, Extended Lean Manufacturing dipointly by the Executive Control Boar FY 03 0.250 N/A programs.	ng, Lasox, WEMACS, (d (ECB) of the National FY 04 0.250 N/A	FY 05 FY 05 FY 05	Simulation Training Exercises, Second Tier Design
SPARS, SPARS-2, ISE-2, ISE-3, Lean Manuenhancements. All projects will be performe Shipbuilding programs. Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	sfacturing, Extended Lean Manufacturing dipointly by the Executive Control Boar FY 03 0.250 N/A programs.	ng, Lasox, WEMACS, (d (ECB) of the National FY 04 0.250 N/A	FY 05 0.250	Simulation Training Exercises, Second Tier Design

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
						February 2004
APPROPRIATION/BUDGET ACTIVITY				ROJECT NUMBER		
RDT&E, N/BA-7	0708730N/NSR	P ASE	24	466/2811/NSRP AS	<u> </u>	
C. PROGRAM CHANGE SUMMARY:						
Funding:		FY 2003	FY 2004	FY 2005		
Previous President's Budget: (FY 04 Pres Contro	ols)	9.703	10.068	0.000		
Current BES/President's Budget (FY 05 Presider		9.330	9.955	10.265		
Total Adjustments		-0.373	-0.113	10.265		
Summary of Adjustments						
Reprogrammings		-0.373				
Programmatic Adjustements				10.265		
Economic Adjustments			-0.113			
Subtotal		-0.373	-0.113	10.265		
Schedule:						
Not Applicable.						
Technical:						
Not Applicable.						

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:		
•									Februar	y 2004
APPROPRIATION/BUDGET ACTIVITY		PROGRAM EL	EMENT NUM	BER AND NAM	1E	PROJECT NU	MBER AND N	AME		
RDT&E, N/BA-7		0708730N/NSI	RP ASE			2466/2811/NS	RP ASE			
D. OTHER PROGRAM FUNDING SUMMARY:									То	Total
Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
None.										
E. ACQUISITION STRATEGY:										
R&D projects have been solicited and awarded has entered into an agreement with the industry							National Shipbu	uilding Researd	ch Program (NSRF	P). The Navy
NOTE: No funding has been received through the Emer	gency Respons	e Fund, Defense	e (ERF,D)							

CLASSIFICATION:

N/NSRP ASE						DATE:		Fabruary 200	.4	
N/NSRP ASE	PROGRAM ELEMENT			PROJECT NU	MRED AND NA	\ME		February 200	14	
	0708730N/NSRP ASE			2466/NSRP AS		-NVIL				
Total	ontract Performing Total		FY 03		FY 04		FY 05			
PY s	ethod Activity & PY's				Award		Award	Cost to	Total	Target Value
Cost		Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract
									0.000	
63.813	OT* ECB NSRP**	8.996	VARIOUS	9.665	VARIOUS	9.805			92.279	
	ONR	0.110							0.110	
									0.000	
									0.000	
									0.000	
									0.000	
									0.000	
									0.000	
									0.000	
									0.000	
63.813	1	9.106		9.665		9.805		0.000	92.389	
m	71 nal Shipbuilding Research Program									
2.533	R/WR MARAD	0.030		0.030		0.030			2.623	
0.846	PR/WR VARIOUS	0.169		0.230		0.400			1.645	
									0.000	
									0.000	
									0.000	
									0.000	
									0.000	
									0.000	
		0.199		0.260		0.430		0.000	4.268	
3.379										
		3.379	3.379 0.199	3.379 0.199	3.379 0.199 0.260	3.379 0.199 0.260	3.379 0.199 0.260 0.430	3.379 0.199 0.260 0.430	3.379 0.199 0.260 0.430 0.000	

CLASSIFICATION:

Fullibit D. 2 Coot Applyaio (so	O)							DATE:		Fab	0.4	
Exhibit R-3 Cost Analysis (pa	ge∠) //T∨	Iр	ROGRAM ELEMENT			PROJECT NI	IMRER AN	ID NAME		February 200	04	
RDT&E, N/BA-7	VII I		708730N/NSRP ASE			2466/NSRP A		ID NAME				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000)
Live Fire Test & Evaluation											0.000)
Test Assets											0.000)
Tooling											0.000)
GFE											0.000)
Award Fees											0.000)
Subtotal T&E			0.000	0.000		0.000)	0.00	00	0.000	0.000)
Contractor Engineering Support											0.000	
Technology Development	Reqn*	TRW/Schafer Corp				0.000	+	+			0.810	+
Technology Development	SS RC	PSU/APL NASSCO	0.385			0.000	1				0.385 0.070	
PM Support NSNET	RC	University of Michi				0.000	1				0.400	
Travel	RC	Oniversity of Michi	0.400 0.099			0.000		0.03	30		0.184	
SBIR Assessment			0.593			0.000	1	0.00	50		0.593	
Subtotal Management			2.357	1		0.030	1	0.03	30	0.000		1
Remarks: * Procure under GSA Schedule						, -						
Total Cost			69.549	9.330	ı	9.955	5	10.20	35	0.000	99.099)
Remarks:												

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification						DATE:	
						Februa	ry 2004
APPROPRIATION/BUDGET ACTIVITY		PROJECT NUMBER AND N					
RDT&E, N/BA-7	9121/Maritime Tech, Ship Design & Systems Development Initiative					ent Initiative	
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	2.283	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Develop a cooperative research effort to improve the quality of shipyard products, efficiency of shipyard production and introduce advanced ship system designs. Thrust areas for this effort include: 1) Lean/agile manufacturing; 2) Shipyard Production Process Automation; 3) Shipyard Production Process Improvement; 4) Ship Design and Production Simulation and Visualization; 5) Education and Training; 6) Application of Advanced Materials to Ship Design and Manufacturing; 7) Design and Application of Advanced Ship Systems. A team of Navy, University of New Orleans, and Northrop Grumman Ship Systems (Avondale) personnel will prioritize potential research projects supporting these thrust areas and oversee project execution to ensure program goals are being met.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N/BA-7	0708730N/NSRP ASE	9121/Maritime Tech, Ship D	esign & Systems Development Initiative

B. Accomplishments/Planned Program

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			
RDT&E Articles Quantity			

Project funding has been received, added to the Gulf Coast Region Maritime Technology Center Cooperative Agreement and research projects have been initiated. Projects currently underway include: Shipboard Applications of Lightweight Ship Structures; Socket Welding of Titanium Grades Using GTAW with Flux Assist; Short Robot Production Runs; Ship Works Robotics Laboratory Vision System; Lean Six Sigma in Shipbuilding; Avondale Manufacturing Process Modeling. All projects are being performed jointly by the University of New Orleans and Northrop Gurmman Ship Systems Avondale Operations to support Navy ship programs such as LPD-17.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost			
RDT&E Articles Quantity			

Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.

	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.253	1.780	
RDT&E Articles Quantity	N/A		

Funds will be provided to the Gulf Coast Region Maritime Technology Center Cooperative Agreement for projects in the following thrust areas: 1) Lean/agile manufacturing; 2) Shipyard Production Process Automation; 3) Shipyard Production Process Improvement; 4) Ship Design and Production Simulation and Visualization; 5) Education and Training; 6) Application of Advanced Materials to Ship Design and Manufacturing; 7) Design and Application of Advanced Ship Systems. A team of Navy, University of New Orleans, and Northrop Grumman Ship Systems (Avondale) personnel will prioritize potential research projects supporting these thrust areas and oversee project execution to ensure program goals are being met.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:	
PPP OPP ATION (PLIP OF TARTIN (T)	IDDOOD ALLEY ELL	ENT AUDED AND MAKE			February 2004	
		ENT NUMBER AND NAME		PROJECT NUMBER		
RDT&E, N/BA-7	0708730N/NSRP	ASE		9121/Maritime Tech	h, Ship Design & Systems Development Initiative	
C. PROGRAM CHANGE SUMMARY:						
Funding:		FY 2003	FY 2004	FY 2005		
Previous President's Budget: (FY 04 Pres Controls)		2.343	0.000			
Current BES/President's Budget (FY 05 President's	s Controls)	2.283	1.780			
Total Adjustments		-0.060	1.780			
Summary of Adjustments						
SBIR/STTR Transfer		-0.060				
Congressional Action	<u>-</u>		1.780			
Subtotal		-0.060	1.780			
Schedule:						
Not Applicable.						
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Tachairel						
Technical:						
Not Applicable.						
		D 4 0110 D D 110 T 110 T				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:	Februa	nry 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM EI	EMENT NUM	BER AND NAM	IE	PROJECT NU	.,				
RDT&E, N/BA-7	0708730N/NS				9121/Maritime	Initiative				
D. OTHER PROGRAM FUNDING SUMMARY:		10.00.00.00.00.00				1	, _F = .	· - · - · - · · · · · · · · · · · ·	То	Total
Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Cost
None.										
E. ACQUISITION STRATEGY: R&D will be executed through the Gulf Coast Re	gion Maritim	ne Technology (Center Coopera	ative Agreemer	nt with the Un	iversity of New C	Orleans.			
NOTE: No funding has been received through the Emerge	ency Respon	se Fund Defens	e (ERE D)							
NOTE. NO failuling has been received unough the Emerge	choy ivespoii	oc i uliu, Delello	C (LIXI ,D)							

CLASSIFICATION:

								DATE:	DATE:					
xhibit R-3 Cost Analysis (page 1)								February 2004						
APPROPRIATION/BUDGET ACTIVI	PROGRAM E	LEMENT				NUMBER AND								
RDT&E, N/BA-7		0708730N/NS				9121/Maritir		Design & System	ns Developme	ent Initiative				
Cost Categories	Contract	Performing	Total		FY 03		FY 04		FY 05					
	Method & Type	Activity & Location	PY s Cost	FY 03 Cost	Award Date	FY 04 Cost	Award Date	FY 05 Cost	Award Date			Target Value of Contract		
	& туре	Location	Cost	Cost	Date	Cost	Date	Cost	Date	Complete				
Tankan da sur Davidas sur est	CA	Linimanity of Navy Ouleans	6.244	0.040							0.000			
Technology Development	CA	University of New Orleans	6.344	2.313							8.657			
											0.000			
											0.000			
											0.000			
											0.000			
											0.000			
											0.000			
											0.000			
											0.000			
Subtotal Technology Development			6.344	2.313		0.0	00	0.000		0.000	8.657			
Development Support											0.000			
Software Development											0.000			
Training Development											0.000			
Integrated Logistics Support											0.000			
Configuration Management											0.000			
Technical Data											0.000			
GFE											0.000			
Award Fees											0.000			
Subtotal Support			0.000	0.000		0.0	00	0.000)	0.000	0.000			
Remarks:														

CLASSIFICATION:

								DATE:						
Exhibit R-3 Cost Analysis (page 2)							February 2004							
				LEMENT				PROJECT NUMBER AND NAME						
RDT&E, N/BA-7	0708730N/NS		Т	1	9121/Maritime	9121/Maritime Tech, Ship Design & Systems Development Initiative					т.			
Cost Categories	Contract Method & Type	Performing Activity & Location		Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation												0.000	,	
Operational Test & Evaluation												0.000	,	
Live Fire Test & Evaluation												0.000	,	
Test Assets												0.000	,	
Tooling												0.000	,	
GFE												0.000	,	
Award Fees												0.000	,	
Subtotal T&E				0.000	0.000)	0.000		0.000)	0.000	0.000	,	
Contractor Engineering Support												0.000)	
Government Engineering Support		1				1						0.000		
Program Management Support				0.170	0.025	:						0.195		
Travel				0.030								0.035		
Labor (Research Personnel)				0.000	0.000	<u>'</u>						0.000		
SBIR Assessment				0.180)							0.180		
Subtotal Management				0.380	1)	0.000		0.000)	0.000	1	1	
Remarks:														
Total Cost				6.724	2.343	3	0.000		0.000)	0.000	9.067	,	
Remarks:														